

Soldier Training Publication
No. 11-31F13-SM-TG

Headquarters
Department of the Army
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**SOLDIER'S MANUAL
AND TRAINER'S GUIDE**

**MOS 31F
NETWORK SWITCHING SYSTEM OPERATOR-MAINTAINER
SKILL LEVELS 1, 2, AND 3**

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PREFACE

This publication is for soldiers holding MOS 31F skill levels (SLs) 1 through 3 and for trainers and first-line supervisors. It contains standardized training objectives, in the form of task summaries, to train and evaluate soldiers on critical tasks which support unit missions during wartime. Trainers and first-line supervisors should ensure soldiers holding MOS 31F10/20/30 have access to this publication. It should be available in the soldier's work area, unit learning center, and unit libraries.

This manual applies to both Active and Reserve Component soldiers.

The proponent of this publication is the US Army Signal Center and Fort Gordon. Send comments and recommendations on DA Form 2028 directly to Commander, US Army Signal Center and Fort Gordon, ATTN: ATZH-DTM, Fort Gordon, GA 30905-5075.

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1

INTRODUCTION

GENERAL

This SM identifies the individual MOS training requirement for soldiers in MOS 31F and is the primary MOS reference to support self-development. Commanders, trainers, and soldiers should use it to plan, conduct, and evaluate individual training in units. This manual is the primary MOS reference to support the self-development and training of every soldier.

Use this manual with the common task manuals (STP 21-1-SMCT and STP 21-24-SMCT), ARTEPs, and FM 25-101, *Battle Focused Training*, to establish effective training plans and programs that integrate soldier, leader, and collective tasks.

TASK SUMMARIES

Task summaries outline the wartime performance requirements of each critical task in the SM. They provide the soldier and the trainer with the information necessary to prepare, conduct, and evaluate critical task training. As a minimum, task summaries include information you must know and the skills that you must perform to standard for each task. The format for the task summaries included in this SM is as follows:

- Task Title. The task title identifies the expected action.
- Task Number. A 10-digit number identifies each task or skill. Include this task number and the task title in any correspondence relating to the task.
- Conditions. The task conditions identify all the equipment, tools, references, job aids, and supporting personnel the soldier needs to perform the task in wartime. This section identifies any environmental conditions that can alter task performance such as visibility, temperature, and wind. This section also identifies any specific cues or events (a chemical attack or identification of a threat vehicle) which trigger task performance.
- Standards. The task standards describe how well and to what level you must perform a task under wartime conditions in terms of accuracy, completeness, and speed.
- Training and Evaluation. This section may contain all or part of the following: training information outline, evaluation preparation subsection, and evaluation guide. The training information outline includes detailed training information. The evaluation preparation subsection indicates necessary modifications to task performance in order to train a task not trained to the wartime standard under wartime conditions. It may also include special training and evaluation preparation instructions to accommodate these modifications and any instructions given to the soldier before evaluation. The evaluation guide identifies the specific actions, known as performance measures, that the soldier must do to successfully complete the

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task. These actions are in a "Pass or Fail" format for easy evaluation. The feedback applied to each task summary is: Score a GO if the soldier passes all steps. Score a NO-GO if the soldier fails any step. If the soldier fails any step, show what was wrong and how to do it correctly. The soldier then must perform the task to standard to receive a GO.

- **References.** This section identifies references that provide more detailed and thorough explanations of task performance requirements than that given in the task summary description.

Additionally, some task summaries include safety statements and notes. Safety statements (danger, warning, caution) alert users to the possibility of immediate death, injury, or damage to equipment. Notes provide a small, extra supportive explanation or hint relative to the performance measures.

SOLDIER'S RESPONSIBILITIES

Each soldier is responsible for performing individual tasks that the first-line supervisor identifies based on the unit's METL. The soldier must perform the task to the standards listed in the SM. If a soldier has a question about how to do a task, or which tasks in this manual he must perform, it is the soldier's responsibility to ask the first-line supervisor for clarification. The first-line supervisor knows how to perform each task, or can direct the soldier to the appropriate training materials.

NCO SELF-DEVELOPMENT AND THE SM

Self-development is one of the key components of the leader development program. It is a planned progressive and sequential program followed by leaders, to enhance and sustain their military competencies. It consists of individual study, research, professional reading, practice, and self-assessment. Using the self-development concept, the NCO, as an Army professional, has the responsibility to remain current in all phases of the MOS. The SM is the primary source for the NCO to use in maintaining MOS proficiency.

Another important resource for NCO self-development is the Army Correspondence Course Program. Refer to DA Pamphlet 351-20 for information on enrolling in this program. For a list of courses, write to: Army Institute for Professional Development, US Army Training Support Center, ATTN: ATIC-IPS, Newport News, VA 23628.

Unit learning centers are valuable resources for planning out self-development programs. They can help access enlisted career maps, training support products, and extension training materials.

TRAINING SUPPORT

This manual includes the following information that provides additional training support information.

- **Appendix, DA Form 5164-R (Hands-On Evaluation).** This appendix contains the instructions for use of DA Form 5164-R and a sample completed form.

- **Glossary.** The glossary is a single comprehensive list of acronyms, abbreviations, definitions, and letter symbols.
- **References.** This section contains two lists of references, required and related, which support training of all tasks in this SM. Required references are in the conditions statement and required for the soldier to do the task. Related references provide more detailed information and a more thorough explanation of task performance.

CHAPTER 2

TRAINER'S GUIDE (TG)

GENERAL

The TG identifies the essential components of a unit training plan for individual training. Units have different training needs and requirements based on differences in environment, location, equipment, dispersion, and similar factors. Therefore, the TG is a guide used for conducting unit training and not as a rigid standard.

The TG provides information necessary for planning MOS training requirements. The TG—

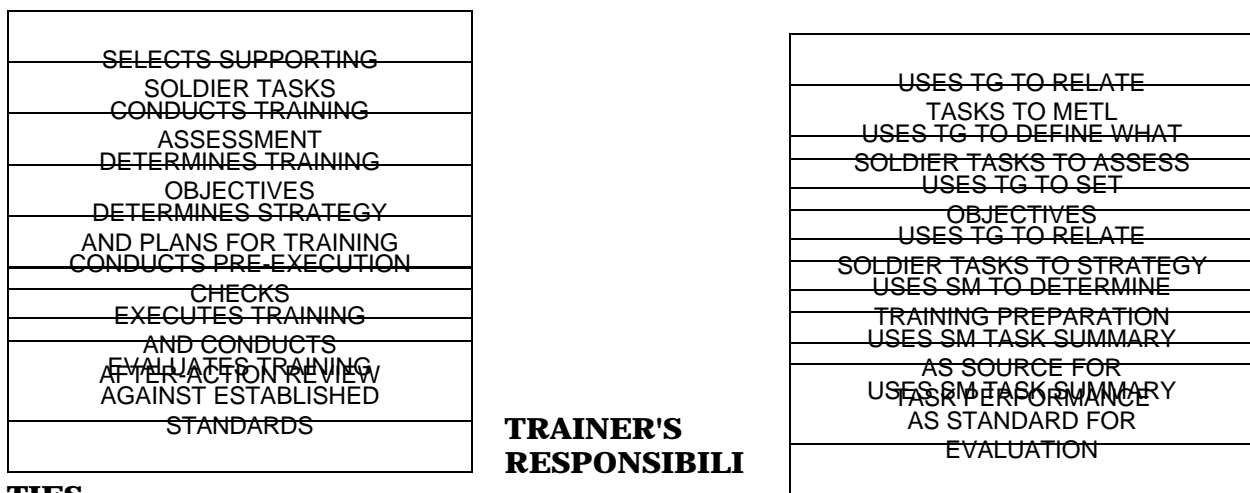
- Identifies subject areas in which to train soldiers.
- Identifies the critical tasks for each subject area.
- Specifies where soldiers are trained to standard on each task.
- Recommends how often to train each task to sustain proficiency.
- Recommends a strategy for cross-training soldiers.
- Recommends a strategy for training soldiers to perform higher level tasks.

BATTLE FOCUSED TRAINING

As described in FM 25-100, *Training the Force*, and FM 25-101, *Battle Focused Training*, the commander must first define the METL as the basis for unit training. Unit leaders use the METL to identify the collective, leader, and soldier tasks that support accomplishment of the METL. Unit leaders assess the status of training and lay out the training objective and the plan for accomplishing needed training. After preparing the long- and short-range plans, leaders execute and evaluate training. Finally, the unit's training preparedness is reassessed, and the training management cycle begins again. This process ensures the unit identifies what is important for the wartime mission, the training focus is applied to necessary training, and training meets established objectives and standards.

RELATIONSHIP OF STPs TO BATTLE FOCUSED TRAINING

The two key components of enlisted STPs are the TG and SM. The TG and SM give leaders important information to help the battle focused training process. The TG relates soldier and leader tasks in the MOS and SL to duty positions and equipment. It provides information on training location, how often training occurs to sustain proficiency, and who in the unit receives the training. As leaders go through the assessment and planning stages, the TG is an important tool in identifying the required training.



TIES

Training tasks to standard and relating this training to collective mission-essential tasks is the NCO trainer's responsibility. Trainers use the following steps to plan and evaluate training.

- Identify soldier and leader training requirements. The NCO uses the commander's training strategy to determine which tasks to train. The unit's METL and ARTEP and the MTP in the TG are sources to help the trainer define the required individual training.
- Plan the training. Integrate training for specific tasks or train along with other training or during "slack periods." The unit's ARTEP can help identify soldier and leader tasks for training and evaluation at the same time as collective task training and evaluation.
- Gather the training references and materials. The SM task summary lists all references that can assist the trainer in preparing the task training.
- Determine risk assessment and identify safety concerns. Analyze the risk involved in

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training a specific task under the current conditions at the scheduled time. Take into account all cautions, warnings, and dangers associated with each task.

- Train each soldier. Show the soldier how to do the task to standard by explaining each step. Give each soldier one chance to do the task step-by-step.
- Emphasize training in MOPP 4 clothing. Soldiers have difficulty performing even the very simple tasks in a nuclear or chemical environment. The combat effectiveness of the soldier and the unit can degrade quickly when trying to perform in MOPP 4. Practice is the best way to improve performance. The trainer is responsible for training and evaluating soldiers in MOPP 4 so they are able to perform critical wartime tasks to standards under nuclear or chemical conditions.
- Check each soldier. Evaluate how well each soldier performs the tasks found in this manual. Conduct these evaluations during individual training sessions or while evaluating soldier proficiency during unit collective tasks training. This manual provides an evaluation guide for each task to enhance the trainer's ability to conduct year-round, hands-on evaluation of tasks critical to the unit's mission. Use the information in the MTP as a guide to determine how often to train the soldier on each task to guarantee sustained proficiency.
- Record the results. Use the leader book referred to in FM 25-101, Appendix B, to record task performance and gives the leader total flexibility on the method of recording training. The trainer MAY use DA Forms 5164-R and 5165-R as part of the leader book. The forms are OPTIONAL and locally reproducible. STP 21-24-SMCT contains a copy of each form and instructions for their use.
- Retrain and evaluate. Work with each soldier until task performance meets specific SM standards.

EVALUATION GUIDE

An evaluation guide exists for each SM task summary. Trainers constantly use the evaluation guides to determine if soldiers can perform their critical tasks to SM standards. Each evaluation guide contains one or more PMs that identify what the trainer needs to observe to score a soldier's performance. Each step has a "P" and "F" located under the "Results" column in each evaluation guide. Some tasks involve a process which the trainer must observe as the soldier performs the task. For other tasks, the trainer must evaluate an "end product" result. The following are some general points about using the evaluation guide to evaluate soldiers:

- Review the guide and become familiar with the scoring information.
- Make sure the necessary safety equipment and clothing needed for proper job performance is on hand at the training site.

- Prepare the test site according to the task summary Conditions section. Some tasks contain special evaluation preparation instructions. These instructions tell the trainer what modifications must be made to the job conditions to evaluate the task. Reestablish the test site to the original requirements after evaluating each soldier. This guarantees conditions are the same for each soldier.

- Advise each soldier of the information in the Brief Soldier section of the task summary before evaluating.

- Score each soldier according to the performance measures and Feedback.

- Record the date and task performance (GO or NO-GO).

TRAINING TIPS FOR THE TRAINER

1. Prepare yourself.

- Get training guidance from your chain of command on when to train, which soldiers to train, availability of resources, and a training site.

- Get the training objective (task conditions and standards) from the task summary in this manual.

- Make sure you can do the task. Review the task summary and the references in the References section. Practice doing the task or, if necessary, have someone train you on the task.

- Choose a training method. Some tasks provide recommended training methods.

- Prepare a training outline consisting of informal notes on what you want to cover during your training session.

- Practice your training presentation.

2. Prepare the resources.

- Obtain the required resources identified in the Conditions statement of each task.

- Gather equipment and ensure it is operational.

- Coordinate the use of training aids and devices.

- Prepare the training site according to the Conditions statement and Evaluation Preparation section of the task summary, as appropriate.

3. Prepare the soldiers.

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- Tell the soldier what task to do and what standards to meet. Refer to the Standards statement and Evaluation Preparation section for each task, as appropriate.
 - Caution soldiers about safety, environment, and security.
 - Provide any necessary training on basic skills the soldiers must have before they can be trained on the task.
 - Pretest each soldier on the task to determine who needs training in what areas. Use DA Form 5164-R and the Evaluation Guide to make this determination.
4. Train the soldiers who failed the pretest.
- Demonstrate how to do the task or the specific PMs to those soldiers who could not perform to SM standards. Have soldiers study the appropriate materials.
 - Have soldiers practice the task until they can perform to SM standards.
 - Evaluate each soldier using the Evaluation Guide.
 - Provide feedback to those soldiers who fail to perform to SM standards, and have them continue to practice until they can perform to SM standards.
5. Record results.

MOS TRAINING PLAN (MTP)

One of the key components of the TG is the MTP. The MTP has two parts to assist the commander in preparing a unit training plan which satisfies integration, cross-train, train-up, and sustainment training requirements for soldiers in this MOS.

PART ONE

Part one of the MTP shows the relationship of an MOS SL between duty position and critical tasks. The critical tasks are grouped by task commonality into subject areas. Section I lists subject area numbers and titles used throughout the MTP. The subject areas define the training requirements for each duty position within an MOS, and relate duty positions to subject areas and cross-training and train-up/merger requirements.

- Duty position column—contains the MOS duty positions, by SL, which have different training requirements.
- Subject area column—lists by subject area number, the subject areas in which the soldier must be proficient for that duty position.

- Cross-train column—lists the recommended duty position for which soldiers should be cross-trained.
- Train-up/merger column—lists the corresponding duty position for the next higher SL or MOS the soldier will merge into on promotion.

Section II identifies the total training requirements in terms of subject areas listed in Section I for each duty position in an MOS.

PART TWO

Part two lists by subject areas, the MOS critical tasks to be trained, task number, task title, location, sustainment training frequency, and training SL.

- Subject area column—lists the subject area number and title in the same order as in the MTP, Part One, Section I.
- Task number column—lists the task numbers for all tasks included in the subject area.
- Task title column—lists the task title.

Training location column—identifies the training location where the task is first trained to STP standards. If the task is first trained to standard in the unit, the word "Unit" will be in this column. If the task is first trained to standard in the training base, it will identify the resident course where the task was taught. Figure 2-1 contains a list of training locations and their brevity codes.

AIT	Advanced Individual Training
ANCOC	Advanced Noncommissioned Officer's Course
BNCOC	Basic Noncommissioned Officer's Course
Unit	Trained in the Unit

Figure 2-1. Training locations.

- Sustainment training frequency column—indicates the recommended frequency at which tasks should be trained to ensure soldier maintains task proficiency. Figure 2-2 identifies the frequency codes to use in this column.

AN	annually
MO	monthly
QT	quarterly
SA	semiannually (once every 6 months)

Figure 2-2. Sustainment training frequency codes.

- Sustainment

training SL column—

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lists the SLs of the MOS for which soldiers must receive sustainment training to ensure they maintain proficiency to SM standards.

- Drill/ARTEP column—lists drill and ARTEP tasks by number which the individual critical tasks supports. This establishes the crosswalk between individual and collective training.

MOS TRAINING PLAN MOS 31F PART ONE: SUBJECT AREAS AND DUTY POSITIONS SECTION I. SUBJECT AREA CODES	
Skill Levels 1/2	Skill Level 3
1. Small Electronic Switching Systems	7. MSE Switching Systems Supervision
2. Large Electronic Switching Systems	8. TRI-TAC Switching System Supervision
3. TRI-TAC Electronic Switching Systems	9. Switching Systems Management
4. Contingency Communications Systems	10. Telephone Routing System Control Center AN/TYQ-46(V)
5. Auxiliary Equipment	11. Packet Switching
6. Signal Security	

MOS TRAINING PLAN MOS PART ONE SECTION II. DUTY POSITION TRAINING REQUIREMENTS				
SL	DUTY POSITION	SUBJECT AREAS	CROSS-TRAIN	TRAIN-UP MERGER
SL1/2	Switch System Operator-Maintainer	3, 5, 6	NA	Senior Switch Operator-Maintainer
	Node Switch Operator-Maintainer	2, 5, 6	Extension Switch Operator-Maintainer OR Management Shelter Operator-Maintainer	Extension Switch Supervisor
	Extension Switch Operator-Maintainer	1, 5, 6	Node Switch Operator-Maintainer OR Management Shelter Operator-Maintainer	Extension Switch Supervisor
	Management Shelter Operator-Maintainer	2, 6	Extension Switch Operator-Maintainer OR Node Switch Operator-Maintainer	Extension Switch Supervisor
	FES Switch Operator-Maintainer	4, 5, 6	NA	SL2 FES Switch Operator-Maintainer
	Senior Switch Operator-Maintainer	3, 5, 6, 9	NA	Switch System Supervisor
	Extension Switch Supervisor	1, 5-7, 9	NA	Node Switch Supervisor OR System Control Center (SCC) Operator-Maintainer
	FES Switch Operator-Maintainer	4-6, 8, 9	NA	FES Switch Supervisor
SL3	Switch System Supervisor	3 5, 6, 9, 11	Plans/Operations NCO OR Section Chief	31W4 Telecommunications Operations Chief
	FES Switch Supervisor	4-6, 8, 9, 11	Plans/Operations NCO OR Section Chief	31W4 Telecommunications Operations Chief
	Node Switch Supervisor	2, 5, 6, 9, 11	Plans/Operations NCO OR Section Chief	31W4 Telecommunications Operations Chief
	SCC Operator-Maintainer	2, 5, 6, 10, 11	Plans/Operations NCO OR Section Chief	31W4 Telecommunications Operations Chief
	Plans/Operations NCO	10, 11	SCC Operator-Maintainer OR Node Switch Supervisor	31W4 Telecommunications Operations Chief
	Section Chief	1-9	Switch System Supervisor OR FES Switch Supervisor OR Node Switch Supervisor	31W4 Telecommunications Operations Chief

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PART TWO. CRITICAL TASKS						
DUTY POSITION TASKS			SKILL LEVELS 1/2 MOS 31F			
SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS
1. Small Electronic Switching Systems	113-625-1025	Install Small Extension Node System AN/TTC-48(V)	AIT	QT	1-3	11-5-0502
	113-625-2087	Perform System Initialization for Small Extension Node System AN/TTC-48(V)	AIT	QT	1-3	11-5-0502
	113-625-2088	Provide Call Service at Small Extension Node System AN/TTC-48(V)	AIT	QT	1-3	11-5-0502
	113-625-2089	Establish a Secure Digital Net Radio Interface Call	AIT	MO	1-3	11-5-0502
	113-625-2090	Perform System Shutdown for Small Extension Node System AN/TTC-48(V)	AIT	QT	1-3	11-5-0502
	113-625-2091	Perform Preventive Maintenance Checks and Services for Small Extension Node System AN/TTC-48(V) or Communications Switching Set AN/TTC-51	AIT	QT	1-3	11-5-0502
	113-625-4036	Maintain Small Extension Node System AN/TTC-48(V) or Communications Switching Set AN/TTC-51 to Direct Support Level	AIT	MO	1-3	11-5-0502
	113-625-7073	Inspect the Installation of Small Extension Node System AN/TTC-48(V)	UNIT	QT	1-3	11-5-0502
2. Large Electronic Switching System	113-625-1039	Install Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	QT	1-3	11-5-0504 11-5-0500
	113-625-2092	Perform System Initialization for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	QT	1-3	11-5-0501
SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS
2. Large Electronic	113-625-2093	Establish Internodal/	AIT	QT	1-3	11-5-0501

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Switching Systems (continued)		Extension Link With Large Switching System AN/TTC-47(V) or Communications Central System AN/TTC-50				
	113-625-2094	Perform Bulk Transfer	AIT	QT	1-3	11-5-0501
	113-625-2095	Provide Call Service at Large Switching System AN/TTC-46(V), AN/TTC-47(V), or Communications Central System AN/TTC-50	AIT	QT	1-3	11-5-0501
	113-625-2096	Perform System Shutdown for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	QT	1-3	11-5-0501
	113-625-3092	Perform Preventive Maintenance Checks and Services for Large Switching System AN/TTC-46(V) or AN/TTC-47(V)	AIT	QT	1-3	11-5-0501
	113-625-4021	Maintain Large Switching System AN/TTC-46(V) or AN/TTC-47(V) to Direct Support Level	AIT	MO	1-3	11-5-0501
	113-625-4036	Maintain System Control Center AN/TTC-47(V) to Direct Support Level	AIT	MO	1-3	11-5-501
	113-625-4035	Restore System/Link Outage in an MSE Switching Network	AIT	QT	1-3	11-5-0501
3. TRI-TAC Electronic Switching Systems	113-603-1040	Install Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D	AIT	QT	1-3	11-5-0043
	113-603-2200	Perform System Initialization for Transportable Automatic Switching System AN/TTC-39A	AIT	QT	1-3	1105-0042

STP 11-31F13-SM-TG

SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS
3. TRI-TAC Electronic Switching Systems (continued)	113-603-2201	Establish an Internodal/ Extension Link with Transportable Automatic Switching System AN/TTC-39A	AIT	QT	1-3	11-5-0042
	113-603-2202	Provide Call Service at Transportable Automatic Switching System AN/TTC-39A	AIT	QT	1-3	11-5-0042
	113-603-2203	Perform System Shutdown for Transportable Automatic Switching System AN/TTC-39A	AIT	QT	1-3	11-5-0042
	113-603-3229	Perform Preventive Maintenance Checks and Services for Automatic Switching System AN/TTC-39A	AIT	QT	1-3	11-5-0042
	113-603-2204	Perform System Initialization for Transportable Automatic Switching System AN/TTC-39D	AIT	QT	1-3	11-5-0042
	113-603-2205	Establish an Internodal/ Extension Link with Transportable Automatic Switching System AN/TTC-39D	AIT	QT	1-3	11-5-0042
	113-603-2206	Provide Call Service at Transportable Automatic Switching System AN/TTC-39D	AIT	QT	1-3	11-5-0042
	113-603-2207	Perform System Shutdown for Transportable Automatic Switching System AN/TTC-39D	AIT	QT	1-3	11-5-0042
	113-603-3230	Perform Preventive Maintenance Checks and Services for Transportable Automatic Switching System AN/TTC-39D	AIT	QT	1-3	11-5-0042
	113-603-4209	Maintain Transportable Automatic Switching System AN/TTC-39A to Direct Support Level	AIT	MO	1-3	11-5-0042

STP 11-31F13-SM-TG

SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS
3. TRI-TAC Electronic Switching Systems (continued)	113-603-4210	Maintain Transportable Automatic Switching System AN/TTC-39D to Direct Support Level	AIT	MO	1-3	11-5-0042
	113-603-4225	Restore System/Link Outage in a TRI-TAC Switching Network	AIT	QT	1-3	11-5-0042
4. Contingency Communications Systems	113-613-1001	Establish Site Layout for Electronic Switching System	UNIT	QT	1-3	TBD
	113-625-1040	Install Communications Switching Set AN/TTC-51	UNIT	QT	1-3	TBD
	113-625-7075	Inspect the Installation of Communications Switching Set AN/TTC-51	UNIT	QT	1-3	TBD
	113-625-2097	Perform System Shutdown for Communications Switching Set AN/TTC-51	UNIT	QT	1-3	TBD
	113-625-1041	Install Communications Central System AN/TTC-50	UNIT	QT	1-3	TBD
	113-625-2098	Perform System Initialization for Communications Central System AN/TTC-50	UNIT	QT	1-3	TBD
	113-625-1048	Install Data Processing Terminal CA-46/G for Communications Central System AN/TTC-50	UNIT	QT	1-3	TBD
	113-625-2099	Perform System Shutdown for Communications Central System AN/TTC-50	UNIT	QT	1-3	TBD
	113-625-3093	Perform Preventive Maintenance Checks and Services for Communications Central System AN/TTC-50	UNIT	QT	1-3	TBD
	113-625-4023	Maintain Communications Central System AN/TTC-50 to Direct Support Level	UNIT	MO	1-3	TBD
5. Auxiliary Equipment	113-625-1042	Install Converter Telephone Signal Equipment CV-3478 or CV-4002	AIT	QT	1-3	TBD
SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS

STP 11-31F13-SM-TG

SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS
5. Auxiliary Equipment (continued)	113-625-1009	Install Super High Frequency (SHF) Radio System AN/GRC-224	AIT	QT	1-3	11-5-0500
	113-625-1049	Install Secure Digital Net Radio Interface TSEC/KY-90	AIT	QT	1-3	11-5-0502
	113-625-1050	Install Converter, Signal Data CV-4215/G	UNIT	QT	1-3	TBD
	113-603-1043	Install Remote Call Service Position, AN/TTC-39A or AN/TTC-39D	AIT	QT	1-3	11-5-0043
	113-605-4010	Maintain Converter Telephone Signal Equipment CV-3478 or CV-4002 to Organizational Level	AIT	QT	1-3	TBD
	113-625-4024	Maintain Super High Frequency (SHF) Radio System AN/GRC-224 to Organizational Level	AIT	QT	1-3	11-5-0500
	113-625-4037	Maintain Secure Digital Net Radio Interface TSEC/KY-90 to Organizational Level	AIT	QT	1-3	11-5-0502
	113-625-4038	Maintain Converter, Signal Data CV-4215/G to Organizational Level	UNIT	QT	1-3	TBD
	113-603-4211	Maintain Remote Call Service Position, AN/TTC-39A or AN/TTC-39D to Direct Support Level	AIT	QT	1-3	11-5-0043
6. Signal Security	113-573-3002	Implement Electronic Counter-Countermeasures for Radio Systems	AIT	QT	1-3	TBD
	113-603-2197	Perform a Manual Cooperative Key Transfer, AN/TTC-39A or AN/TTC-39D	AIT	QT	1-3	11-5-0603

STP 11-31F13-SM-TG

PART TWO. CRITICAL TASKS						
DUTY POSITION TASKS		SKILL LEVEL 3 MOS 31F				
SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS
7. MSE Switching System Supervision	113-625-7074	Inspect the Installation of Large Extension Node System AN/TTC-46(V) or Node Switching System AN/TTC-47(V)	BNCOC	QT	3	11-5-0504 11-5-0500
	113-625-7076	Inspect the Installation of Communications Central System AN/TTC-50	UNIT	QT	3	TBD
8. TRI-TAC Switching System Supervision	113-603-7038	Inspect the Installation of Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D	BNCOC	QT	3	11-5-0043
	113-603-7039	Verify Database Worksheets for Transportable Automatic Switching System AN/TTC-39A or AN/TTC-39D	BNCOC	QT	3	11-5-0043
9. Switching Systems Management	113-623-6013	Conduct Inventory of a Prescribed Load List (PLL) for an Electronic Switching System	BNCOC	SA	3	TBD
	113-573-2033	Inspect Key Management Worksheets (COMSEC)	BNCOC	SA	3	11-5-0502
10. System Control Center, Telephone Routing AN/TYQ-46(V)	113-625-1051	Install System Control Center, Telephone Routing AN/TYQ-46(V)	BNCOC	QT	3	11-5-0573
	113-625-2100	Perform System Initialization for System Control Center, Telephone Routing AN/TYQ-46(V)	BNCOC	QT	3	11-5-0574
	113-625-2101	Create a Team Packet	BNCOC	QT	3	11-5-0574
	113-625-2102	Modify a Subscriber's Preprogrammed Conference List	BNCOC	QT	3	11-5-0574
	113-625-2103	Add a System Control Center, Telephone Routing AN/TYQ-46(V) to an MSE Network	BNCOC	QT	3	11-5-0574
	113-625-1052	Install Digital Computer System AN/TYC-22	BNCOC	QT	3	11-5-0573

STP 11-31F13-SM-TG

SUBJECT AREA	TASK NO	TITLE	TRAINING LOCATION	SUST TNG FREQ	SUST TNG SL	DRILL ARTEP NO AND TASKS
10. System Control Center, Telephone Routing AN/TYQ-46(V) (continued)	113-625-2104	Perform System Shutdown for System Control Center, Telephone Routing AN/TYQ-46(V)	BNCOC	QT	3	11-5-0574
	113-625-3094	Perform Preventive Maintenance Checks and Services on System Control Center, Telephone Routing AN/TYQ-46(V)	BNCOC	QT	3	11-5-0574
11. Packet Switching	113-625-2105	Build Packet Switch Domain Database	BNCOC	QT	3	TBD
	113-625-2106	Perform Message Transfer Agent/Tactical Name Server (MTA/TNS) Manual Registration/Deregistration Procedures	BNCOC	QT	3	TBD

CHAPTER 3

MOS SKILL LEVEL TASKS

Subject Area 1: Small Electronic Switching Systems

113-625-1025

INSTALL SMALL EXTENSION NODE SYSTEM AN/TTC-48(V)

CONDITIONS

Given a vehicle mounted SENS AN/TTC-48(V) with power unit PU-753/M, 8-lb sledge hammer, ground rod driver/puller, axe, shovel, magnetic compass (if using SHF radio), TM 5-6115-632-14&P, and TM 11-5805-764-13-1.

STANDARDS

The standards are met when the SENS is positioned, power is applied, and it is ready for initialization.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TM 11-5805-764-13-1 except as noted.]

Performance Measures	Results	
1. Position shelter and power unit.	P	F
2. Open protective covers.	P	F
3. Ground shelter and power unit.	P	F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

4. Connect AC/DC power cable. (Refer to TM 5-6115-632-14&P.)	P	F
5. Connect signal cables and external subscriber access devices.	P	F

NOTE: There are eight possible cables interfaces. They vary according to deployment configuration. The soldier should be able to connect all signal cables. However, the tactical situation may prevent the use of some cables.

- a. Connect commercial office access lines.
- b. Connect local subscriber J-1077 junction boxes.
- c. Connect PS user/host J-1077 junction boxes.
- d. Connect CNR cables.
- e. Connect SHF cables.
- f. Connect NC/LEN signal cables.
- g. Connect LOS signal cable.
- h. Connect LAN signal cables.
6. Perform shelter DC power-up using vehicle power source. P F
7. Perform power unit start-up. (Refer to TM 5-6115-632-14&P.) P F
 - a. Perform prestart checks.
 - b. Perform start-up procedures.
 - c. Adjust voltage for load requirements.
 - d. Apply power to the shelter.
8. Perform switchover to AC power at shelter. P F

REFERENCES

Required	Related
TM 5-6115-632-14&P	TM 9-2320-280-10
TM 11-5805-764-13-1	TM 11-5805-772-12

113-625-2087

PERFORM SYSTEM INITIALIZATION FOR SMALL EXTENSION NODE SYSTEM AN/TTC-48(V)

CONDITIONS

Given an installed SENS AN/TTC-48(V), an operational MSE communication network, TM 11-5805-764-13-1, TM 11-5805-772-12, (o)TM 11-5810-256-10-1, TM 11-5820-401-10-1 or TM 11-5820-890-10-1, and TM 11-5820-1024-13.

STANDARDS

The standards are met when the SENS is processing both local and trunk traffic.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TM 11-5805-764-13-1 except as noted.]

Performance Measures	Results	
1. Perform equalization charge procedures.	P	F

NOTE: If the AN/TTC-48(V) is equipped with LGM TD-1426(P)/T and GM MD-1231(P)/T, complete PMs 2 and 3; if equipped with CM MD-1270(P)/T, complete PM 4.

2. Perform start-up procedures for the following:	P	F
a. LGM.		
b. GM.		
3. Perform start-up procedures and initialize OCU.	P	F
4. Perform start-up procedures and initialize CM.	P	F
5. Perform start-up procedures for SDC.	P	F

NOTE: Tell the soldier the SCC directed PS start-up.

6. Perform PS start-up procedures.	P	F
7. Load net CNV and RKV keys into KY-57. (Refer to TM 11-5810-256-10-1.)	P	F
8. Operate SHF radio. (Refer to TM 11-5820-1024-13.)	P	F
a. Perform start-up procedures.		
b. Perform antenna alignment.		

c. Set read/write mode.		
d. Operate SHF radio set.		
9. Load TEK into TED using KYK-13.	P	F
10. Patch DTG normal through.	P	F

NOTE: The tactical situation determines if cold-start or warm-start initialization procedures are used.

11. Perform switchboard SB-4303 start-up procedures. (Refer to TM 11-5805-772-12.)	P	F
a. Perform cold-start procedures.		
b. Perform warm-start procedures.		
c. Perform database update procedures.		
12. Determine call sign and frequency for the NRI.	P	F
13. Perform KY-90 start-up procedures.	P	F
a. Perform initialization procedures.		
b. Load initial affiliation key (M), per call key encryption key (U).		
c. Load radio net keys into the KY-90.		
d. Affiliate KY-90.		
14. Affiliate DNVIT.	P	F
15. Operate CM or OCU.	P	F
a. Initiate a call.		
b. Receive a call.		
17. Perform an OTAR.	P	F
18. Operate SDNRI.	P	F
a. Operate KY-90.		
b. Operate AN/VRC-46 or AN/VRC-90. (Refer to TM 11-5820-401-12 or TM 11-5820-890-10-1.)		
c. Connect radio subscriber to phone subscriber.		
d. Connect phone subscriber to radio subscriber.		

REFERENCES

Required	Related
TM 11-5805-764-13-1	SOI
TM 11-5805-772-12	TM 11-5805-726-12-2
(o)TM 11-5810-256-10-1	TM 11-5805-769-24P
TM 11-5820-1024-13	
TM 11-5820-401-10-1	
TM 11-5820-890-10-1	

113-625-2088

PROVIDE CALL SERVICE AT SMALL EXTENSION NODE SYSTEM AN/TTC-48(V)

CONDITIONS

Given an operational SENS AN/TTC-48(V) with subscribers, TM 11-5805-761-12&P, TM 11-5805-764-13-1, and TM 11-5805-772-12.

STANDARDS

The standards are met when an incoming call is answered, the required response is provided, and the call is terminated.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TM 11-5805-764-13-1 and TM 11-5805-772-12 except as noted.]

Performance Measures

1. Affiliate DNV. (Refer to TM 11-5805-761-12&P.)

Results

P F

- | | | |
|---|---|---|
| 2. Initiate a call. | P | F |
| 3. Release a call. | P | F |
| 4. Answer an incoming call. | P | F |
| 5. Extend a call with precedence upgrade. | P | F |
| 6. Extend a call. | P | F |
| 7. Place a call on hold. | P | F |
| 8. Extend test tone to subscriber. | P | F |
| 9. Perform call intercept. | P | F |
| 10. Perform call forwarding. | P | F |
| 11. Perform conference initiation (programmed and progressive). | P | F |

REFERENCES

Required

TM 11-5805-761-12&P
TM 11-5805-764-13-1
TM 11-5805-772-12

Related

None

113-625-2089

ESTABLISH A SECURE DIGITAL NET RADIO INTERFACE CALL**CONDITIONS**

Given an operational TSEC/KY-90 with a request for a net radio/telephone call, distant CNR system, SOI, (o)TM 11-5810-349-10, TM 11-5820-890-10-1, and AN/TTC-48 or AN/TTC-46.

STANDARDS

The standards are met when the net radio subscriber and telephone subscriber have communicated and the circuit is cleared.

- | | | |
|--|---|---|
| 2. Load frequency(ies). | P | F |
| 3. Load TEK. | P | F |
| 4. Perform cold-start net opening and make a secure radio check. | P | F |
| 5. Communicate in secure FM mode. | P | F |
| 6. Close net. | P | F |
| 7. Perform after operation PMCS. | P | F |
| a. Clear COMSEC. | | |
| b. Perform RT self-test. | | |
| c. Preset controls. | | |

TRAINING AND EVALUATION**Evaluation Guide****Performance Measures**

1. Perform before operation PMCS.

Results

P F

REFERENCES**Required**

SOI

None

(o)TM 11-5810-349-10

TM 11-5820-890-10-1

Related

113-625-2090

PERFORM SYSTEM SHUTDOWN FOR SMALL EXTENSION NODE SYSTEM AN/TTC-48(V)

CONDITIONS

Given an operational SENS AN/TTC-48(V), team packet with redeployment orders, and TM 11-5805-764-13-1.

STANDARDS

The standards are met when the AN/TTC-48(V) is ready for movement/relocation.

- | | | |
|---|---|---|
| 2. Perform storage procedures. | P | F |
| 3. Perform power cabling removal/storage procedures. | P | F |
| 4. Perform subscriber field cable removal/storage procedures. | P | F |
| 5. Perform ground strap and rod removal procedures. | P | F |
| 6. Close and secure shelter door and all external covers. | P | F |

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

1. Perform operational shutdown procedures.

Results

P F

REFERENCES

Required

TM 11-5805-764-13-1

Related

None

113-625-2091

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR
SMALL EXTENSION NODE SYSTEM AN/TTC-48(V) OR
COMMUNICATIONS SWITCHING SET AN/TTC-51**

CONDITIONS

Given an installed SENS AN/TTC-48(V) or CSS AN/TTC-51 operating in a systems network, TM 11-5805-764-13-1 or TM 11-5895-1527-13&P, and DA Form 2404.

STANDARDS

The standards are met when all deficiencies/short-comings are corrected or documented and reported to the next maintenance level.

TRAINING AND EVALUATION

NOTE: This task has two PMCS tables—operator and unit. Follow both tables simultaneously according to the maintenance interval, such as before, during, after, weekly, and so forth.

Evaluation Guide

[Refer to the TM for the equipment you have.]

Performance Measures	Results
1. Determine which PMCS interval you are performing.	P F

NOTE: During continuous operation, perform PMCS that will not interrupt operation. Perform complete checks when feasible.

- | | | |
|---|---|---|
| 2. Perform routine checks and make appropriate on the spot corrections. | P | F |
|---|---|---|

NOTE: When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS in the TMs and on equipment plates and decals.

- | | | |
|--|---|---|
| 3. Record all uncorrected deficiencies on DA Form 2404. | P | F |
| 4. Report all uncorrected deficiencies to immediate supervisor for further action. | P | F |

REFERENCES

Required	Related
TM 11-5805-764-13-1	DA Pam 738-750
TM 11-5895-1527-13&P	TM 11-5805-764-23P
	TM 11-5805-772-12
	TM 11-5805-772-24P
	(o)TM 11-5810-292-13&P
	(o)TM 11-5810-349-10
	TM 11-5820-1024-13

113-625-4036

MAINTAIN SMALL EXTENSION NODE SYSTEM AN/TTC-48(V) OR COMMUNICATIONS SWITCHING SET AN/TTC-51 TO DIRECT SUPPORT LEVEL

CONDITIONS

Given a faulty SENS AN/TTC-48(V) or CSS AN/TTC-51 operating in a systems network, multimeter AN/PSM-45A or equivalent, ESA test set TS-4294/G, PCC extractor/insertor, TK-105/G, TK-90/G, TM 11-5805-764-13-1 or TM 11-5895-1527-13&P, and DA Form 2404.

STANDARDS

The standards are met when the equipment is returned to normal operation or an unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to the TM for the equipment you have.]

Performance Measures	Results
1. Identify fault symptoms.	P F

2. Isolate fault to LRU.	P	F
3. Repair/replace faulty component or report unrepairable faults to the next maintenance level.	P	F
4. Test and verify repairs.	P	F
5. Return equipment to normal operating condition.	P	F
6. Complete all required forms.	P	F

REFERENCES

Required	Related
TM 11-5805-764-13-1	DA Pam 738-750
TM 11-5895-1527-13&P	TM 11-5805-761-12&P
	TM 11-5805-764-23P
	TM 11-5805-772-12
	TM 11-5805-772-24P
	(o)TM 11-5810-256-30
	(o)TM 11-5810-292-13&P
	(o)TM 11-5810-349-10

113-625-7073

INSPECT THE INSTALLATION OF SMALL EXTENSION NODE SYSTEM AN/TTC-48(V)**CONDITIONS**

Given an installed SENS AN/TTC-48, team packet, TM 11-5805-764-13-1, (o)TM 11-5810-349-10, TM 11-5820-401-10-1 or TM 11-5820-890-10-1, and TM 11-5820-1024-13.

STANDARDS

The standards are met when the SENS installation is inspected and ready for power.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM 11-5805-764-13-1 except as noted.]

Performance Measures	Results	
1. Select equipment site.	P	F
2. Ensure shelter and power unit are grounded.	P	F
3. Ensure KY-90 and CNR are installed IAW OPORD, if required. (Refer to TM 11-5810-349-10 and TM 11-5820-401-10-1 or TM 11-5820-890-10-1.)	P	F
4. Check signal cable connections.	P	F

NOTE: Refer to TM-11-5820-1024-13 for PMs 5 through 8.

5. Ensure AN/GRC-224 is installed IAW OPORD, if required.	P	F
6. Select site for 9-meter antenna mast AB-1342/GRC-224, if required.	P	F

DANGER

Area used for antenna installation must be free of overhead electrical wires. Instant death can result if the antenna comes in contact with HIGH VOLTAGE lines.

7. Determine antenna polarization from OPORD. P F

WARNING

Do not erect mast if any parts are missing or damaged. Serious personal injury or equipment damage can result.

8. Direct installation of 9-meter antenna mast AB-1342/GRC-224. P F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

9. Check AC/DC power cable connections before power is applied. P F
10. Check operation of power unit PU-753/M. P F
11. Check voltage reading before and after applying power to equipment. P F

REFERENCES

Required	Related
TM 11-5805-764-13-1	TM 11-5800-216-10-1
(o)TM 11-5810-349-10	TM 11-5800-216-10-2
TM 11-5820-401-10-1	TM 11-5800-216-10-4
TM 11-5820-890-10-1	
TM 11-5820-1024-13	

Subject Area 2. Large Electronic Switching Systems

113-625-1039

INSTALL LARGE SWITCHING SYSTEM AN/TTC-46(V) OR AN/TTC-47(V)**CONDITIONS**

Given a vehicle mounted LENS AN/TTC-46(V) or NCS AN/TTC-47(V) with power unit PU-753/M, shovel, axe, 8-lb sledge hammer, ground rod driver/puller, TM 5-6115-632-14&P, TM 11-5805-707-12 (LENS only), and TM 11-5805-765-12-1 (NCS) or TM 11-5805-766-12-1 (LENS).

STANDARDS

The standards are met when the LENS or NCS is positioned, power is applied, and it is ready for initialization.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to: TM 11-5805-765-12-1 or TM 11-5805-766-12-1 except as noted.]

Performance Measures	Results	
1. Position equipment on site.	P	F
2. Open protective covers.	P	F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

- | | | |
|-----------------------------------|---|---|
| 3. Ground shelter and power unit. | P | F |
|-----------------------------------|---|---|

NOTE: Ground PEPs and SEPs separately.

- | | | |
|---|---|---|
| 4. Connect AC/DC power cable and intershelter cables. | P | F |
| 5. Connect external signal cables and subscriber access devices. | P | F |
| a. J-1077 junction box. | | |
| b. TD-1234(P)/TTC multiplexer-combiner (LENS only). (Refer to TM 11-5805-707-12.) | | |
| 6. Perform DC power-up procedures using vehicle power source. | P | F |
| 7. Perform power unit start-up. | P | F |
| a. Perform prestart checks. | | |
| b. Perform start-up procedures. | | |
| c. Adjust voltage for load requirements. | | |
| d. Apply power to the shelter. | | |
| 8. Perform switchover to AC power at shelter. | P | F |

REFERENCES**Required**

TM 5-6115-632-14&P
TM 11-5805-707-12
TM 11-5805-765-12-1
TM 11-5805-766-12-1

Related

TM 9-2320-280-10

113-625-2092

PERFORM SYSTEM INITIALIZATION FOR LARGE SWITCHING SYSTEM AN/TTC-46(V) OR AN/TTC-47(V)

CONDITIONS

Given an installed LENS AN/TTC-46(V) or NCS AN/TTC-47(V) operational MSE communications network, TM 11-5805-765-12-1, TM 11-5805-765-12-2, TM 11-5805-765-12-3, and TM 11-5805-765-12-4 (NCS); or TM 11-5805-766-12-1, TM 11-5805-766-12-2, TM 11-5805-766-12-3, and TM 11-5805-766-12-4 (LENS); (o)TM 11-5810-349-10, and TM 11-5820-10-24-13.

STANDARDS

The standards are met when PREAFFILIATION OF SUBLIST NNN COMPLETE (NNN = preaffiliation list number) is displayed at the workstation and/or printed at the TTY and the COMSEC subsystem is initialized.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to: TM 11-5805-765-12-1 or TM 11-5805-766-12-1 except as noted.]

Performance Measures	Results	
1. Perform preliminary checks on operation and switching shelters.	P	F
2. Perform equalizing charge procedures on operation and switching shelters.	P	F
NOTE: Tell the soldier the SCC directed PS start-up.		
3. Start-up PS/gateway (NCS only), start-up PS and SDC (LENS only).	P	F

4. Perform switching/routing processor start-up.	P	F
5. Initialize COMSEC equipment automatic key distribution center (AKDC), TED KY-57, and SDNRI KY-90, if installed (LENS only).	P	F
6. Operate SHF radio set AN/GRC-224, if installed. (Refer to TM 11-5820-1024-13.)	P	F
7. Perform CSP initialization.	P	F
8. Perform TTY functions using workstation.	P	F
9. Perform workstation utilities functions using workstation.	P	F
10. Operate DNVF.	P	F
11. Operate SDNRI KY-90, if installed (LENS only). (Refer to (o)TM 11-5810-349-10.)	P	F

REFERENCES

Required	Related
TM 11-5805-765-12-1	TM 9-2320-280-10
TM 11-5805-765-12-2	TM 5-6115-632-14&P
TM 11-5805-765-12-3	TM 11-5800-216-10-4
TM 11-5805-765-12-4	TM 11-5805-726-12-2
TM 11-5805-766-12-1	
TM 11-5805-766-12-2	
TM 11-5805-766-12-3	
TM 11-5805-766-12-4	
(o)TM 11-5810-349-10	
TM 11-5820-1024-13	

113-625-2093

ESTABLISH INTERNODAL/EXTENSION LINK WITH LARGE SWITCHING SYSTEM AN/TTC-47(V) OR COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50

CONDITIONS

Given an operational NCS AN/TTC-47 or COMM-CEN AN/TTC-50 with an operational LOS radio link or cable link to a distant SEN, LEN, or NS and TM 11-5805-766-12-1, TM 11-5805-766-12-2, TM 11-5805-766-12-3, and TM 11-5805-766-12-4; or TM 11-5805-786-12-1, TM 11-5805-786-12-2, TM 11-5805-786-12-3, and TM 11-5805-786-12-4.

STANDARDS

The standards are met when a call can be established between the operator's DNV-T and the distant node.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to the TM for the equipment you have.]

Performance Measures	Results	
1. Perform assign command procedure.	P	F
a. Add functions.		

	b. Modify functions.		
	c. Delete functions.		
2.	Perform link initialization.	P	F
	a. Internodal link.		
	b. Extension link.		
3.	Establish CM or OCU procedures.	P	F
	a. Initiate call.		
	b. Receive call.		
4.	Complete a call to the switching system.	P	F

REFERENCES

Required

TM 11-5805-766-12-1
 TM 11-5805-766-12-2
 TM 11-5805-766-12-3
 TM 11-5805-766-12-4
 TM 11-5805-786-12-1
 TM 11-5805-786-12-2
 TM 11-5805-786-12-3
 TM 11-5805-786-12-4

Related

FM 24-22
 FM 24-27

113-625-2094 PERFORM BULK TRANSFER

CONDITIONS

Given an operational switching system acting as the master switch with a established link to a subordinate node requiring COMSEC keys, TM 11-5805-766-12-2 (AN/TTC-47), TM 11-5805-778-12-2-1 (AN/TTC-39D), or TM 11-5805-786-12-2 (AN/TTC-50).

NOTE: A master switch can be an AN/TTC-47, AN/TTC-39D, or AN/TTC-50.

STANDARDS

The standards are met when the master and subordinate switch receive BULK TRANSFER COMPLETE message.

TRAINING AND EVALUATION Evaluation Guide

[Refer to the TM for the equipment you have.]

Performance Measures

1. ABT command.

Results

P F

NOTE: ABT operations are not allowed while rekeying is in progress. Switch must be on-line for ABT operation. If an ABT operation is requested when the switch is not on-line, SWITCH NOT IN PROPER STATE is displayed in the STATUS field.

2. Assign the appropriate line type (action). P F

NOTE: Only one operation at a time may be performed. If STOP is requested, any operation in progress is stopped.

3. Activate or generate a list number or COMSEC ID. P F
4. Assign transfer number. P F
5. Assign destination switch number. P F
6. Call the receiving switch for authorization. P F

NOTE: ABT authorization at the receiving switch must be set to Y before the transmitting switch initiates the transfer.

7. Assign authorization to accept bulk transfer. P F
8. Store all information. P F

REFERENCES

Required

TM 11-5805-766-12-2
TM 11-5805-778-12-2-1
TM 11-5805-786-12-2

Related

None

113-625-2095

**PROVIDE CALL SERVICE AT LARGE SWITCHING SYSTEM AN/TTC-46(V),
AN/TTC-47(V), OR COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50**

CONDITIONS

Given an operational LENS AN/TTC-46(V), NCS AN/TTC-47(V) or COMMCEN AN/TTC-50 with CSP position in the EXTENDED mode and subscribers and TM 11-5805-765-12-1 (NCS), TM 11-5805-766-12-1 (LENS), or TM 11-5805-786-12-1 (COMMCEN).

STANDARDS

The standards are met when an incoming call is answered, the required response is provided, and the call is terminated.

- | | | |
|---|---|---|
| 2. Initiate a call. | P | F |
| 3. Release a call. | P | F |
| 4. Answer an incoming call. | P | F |
| 5. Extend a call with precedence up-grade. | P | F |
| 6. Extend a call. | P | F |
| 7. Place a call on hold. | P | F |
| 8. Extend test tone to subscriber. | P | F |
| 9. Perform call intercept. | P | F |
| 10. Perform call forwarding. | P | F |
| 11. Perform conference initiation (programmed and progressive). | P | F |

TRAINING AND EVALUATION

Evaluation Guide

[Refer to the TM for the equipment you have.]

Performance Measures	Results
1. Answer a directory answer call.	P F

REFERENCES

Required	Related
TM 11-5805-765-12-1	TM 11-5800-216-10-4
TM 11-5805-766-12-1	TM 11-5805-726-12-2
TM 11-5805-786-12-1	

113-625-2096

PERFORM SYSTEM SHUTDOWN FOR LARGE SWITCHING SYSTEM AN/TTC-46(V) OR AN/TTC-47(V)

CONDITIONS

Given an operational NCS AN/TTC-47(V) or LENS AN/TTC-46(V), team packet with redeployment orders, and TM 11-5805-765-12-1 (NCS) or TM 11-5805-766-12-1 (LENS).

STANDARDS

The standards are met when the AN/TTC-46(V) or AN/TTC-47(V) is ready for movement/relocation.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to the TM for the equipment you have.]

Performance Measures	Results	
1. Switch from primary AC power to auxiliary DC power.	P	F
2. Perform normal shelter shutdown.	P	F

NOTE: Shutdown command must be used to bring workstation to a state where it can be safely powered down.

3. Perform normal AC power/generator shutdown.	P	F
4. Disconnect AC/DC power cable.	P	F
5. Disconnect and recover signal and antenna cables.	P	F
6. Disconnect and recover all ground rods, straps, and leads.	P	F
7. Pack/prepare associated and peripheral equipment for redeployment.	P	F
8. Perform site recovery.	P	F

REFERENCES

Required	Related
TM 11-5805-765-12-1	TM 5-6115-632-14&P
TM 11-5805-766-12-1	TM 9-2320-280-10

113-625-3092

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR LARGE SWITCHING SYSTEM AN/TTC-46(V) OR AN/TTC-47(V)

CONDITIONS

Given an installed LENS AN/TTC-46(V) or NCS AN/TTC-47(V) operating in a system network, TM 11-5805-765-12-1 (NCS) or TM 11-5805-766-12-1 (LENS), and DA Form 2404.

STANDARDS

The standards are met when deficiencies/shortcomings are corrected or documented and report to the next maintenance level.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to the TM for the equipment you have.]

Performance Measures	Results	
1. Determine which PMCS interval you are performing.	P	F

NOTE: During continuous operation, perform PMCS that will not interrupt operation. Perform complete checks when feasible.

- | | | |
|---|---|---|
| 2. Perform routine check procedures and make appropriate on-the-spot corrections. | P | F |
|---|---|---|

NOTE: When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS in the TMs and on equipment plates and decals.

- | | | |
|--|---|---|
| 3. Record all uncorrected deficiencies on DA Form 2404. | P | F |
| 4. Report all uncorrected deficiencies to immediate supervisor for further action. | P | F |

REFERENCES

Required	Related
TM 11-5805-765-12-1	DA PAM 738-750
TM 11-5805-766-12-1	TM 11-5805-761-12&P

113-625-4021

**MAINTAIN LARGE SWITCHING SYSTEM AN/TTC-46(V)
OR AN/TTC-47(V) TO DIRECT SUPPORT LEVEL**

CONDITIONS

Given a faulty installed LENS AN/TTC-46(V) or NCS AN/TTC-47(V), multimeter AN/PSM-45A, ESA test set TS-4294/G, tool kit TK-105/G, battery tool kit TK-90/G, dual power supply, TM 11-5805-765-12-1, TM 11-5805-765-12-2, TM 11-5805-765-12-3, and TM 11-5805-765-12-4 (NCS); or TM 11-5805-766-12-1, TM 11-5805-766-12-2, TM 11-5805-766-12-3, and TM 11-5805-766-12-4 (LENS); and DA Form 2404.

STANDARDS

The standards are met when all faults are identified, isolated, repaired to the LRU using the troubleshooting flow charts, and the shelter is returned to normal operation.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to the TM for the equipment you have.]

Performance Measures**Results**

- | | | |
|--|---|---|
| 1. Identify and categorize all faults. | P | F |
|--|---|---|

- | | | |
|---|---|---|
| 2. Perform EUB procedures if required. | P | F |
| 3. Perform fault isolation. | P | F |
| 4. Repair or replace faulty component to the LRU. | P | F |
| 5. Test and verify repairs. | P | F |
| 6. Return equipment to normal operation. | P | F |
| 7. Complete all required forms. | P | F |

REFERENCES**Required****Related**

TM 11-5805-765-12-1
TM 11-5805-765-12-2
TM 11-5805-765-12-3
TM 11-5805-765-12-4
TM 11-5805-766-12-1
TM 11-5805-766-12-2
TM 11-5805-766-12-3
TM 11-5805-766-12-4

DA PAM 738-750

113-625-4036

MAINTAIN SYSTEM CONTROL CENTER AN/TYQ-46(V) TO DIRECT SUPPORT LEVEL**CONDITIONS**

Given an faulty installed SCC AN/TYQ-46(V) operating in a network, multimeter AN/PSM-45A or equivalent, ESA test set TS-4294/G, dual power supply, GTE PCC extractor, TM 11-5895-1498-12-1, TM 11-5895-1498-12-2, TM 11-5895-1498-12-3, TM 11-5895-1498-30, and DA Form 2404.

STANDARDS

The standards are met when all faults are identified, isolated, and repaired/replaced to the LRU and the SCC returned to normal operation or an unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to the TM for the equipment you have.]

Performance Measures	Results	
1. Identify and categorize all fault symptoms.	P	F
2. Isolate fault to the LRU.	P	F

- | | | |
|--|---|---|
| 3. Repair/replace faulty component(s) to the LRU. | P | F |
| 4. Verify repaired or replaced faulty components. | P | F |
| 5. Return AN/TYQ-46(V) to normal operation. | P | F |
| 6. Report all uncorrected deficiencies to immediate supervisor for further action. | P | F |
| 7. Complete all required forms. | P | F |

REFERENCES**Required**

TM 11-5895-1498-12-1
 TM 11-5895-1498-12-2
 TM 11-5895-1498-12-3
 TM 11-5895-1498-30

Related

DA Pam 738-750
 TM 5-6115-630-14&P
 TM 5-6115-632-14&P
 TM 9-2320-280-34
 TM 9-4120-378-14
 TM 9-6140-200-14
 TM 11-5895-1465-13&P
 TM 11-5895-1498-23P
 TM 11-7021-216-13&P
 TM 11-7025-281-12&P

113-625-4035

RESTORE SYSTEM/LINK OUTAGE IN AN MSE SWITCHING NETWORK**CONDITIONS**

Given an established link with a fault between NCS AN/TTC-47(V) and a distant terminal, TM 11-5800-216-10-4, and TM 11-5805-766-12-1.

NOTE: Perform system/link outage troubleshooting the master NCS.

STANDARDS

The standards are met when the link outage is restored through fault isolation procedures.

TRAINING AND EVALUATION**Evaluation Guide****Performance Measures****Results**

- | | | |
|---|---|---|
| 1. Check all subscriber reported faults to ensure the failure is not due to non-link fault. | P | F |
| 2. Interpret link maps and fault isolation checklist to define assemblage interconnections for various links. | P | F |

- | | | |
|---|---|---|
| 3. Direct system troubleshooting and isolate fault to an assemblage or component. | P | F |
| 4. Direct assemblage fault isolation. | P | F |

NOTE: The results of PM 3 determine which assemblage requires fault isolation procedures. If fault is not in the master NCS have the other assemblage supervisor report to master NCS when fault is repaired and have soldier go to PM 6. If fault is in master NCS have soldier do PM 5.

- | | | |
|---|---|---|
| 5. Direct master NCS repair procedures. | P | F |
| 6. Verify system/link status. | P | F |
| 7. Report system/link status to SCC. | P | F |

REFERENCES**Required****Related**

TM 11-5800-216-10-4

TM 11-5805-765-12-4

TM 11-5805-766-12-1

TM 11-5805-764-13-1

Subject Area 3. TRI-TAC Electronic Switching Systems

113-603-1040

INSTALL TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM

AN/TTC-39A OR AN/TTC-39D

CONDITIONS

Given an AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS with power unit PU-406, MPDU AN/MJQ-10; tool kit JTK-17LMLD; GSE supplementary tool kit-OL; shovel; axe; 8-lb sledge hammer; TM 5-6115-626-14&P; TM 5-6115-627-14&P; and TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3 (AN/TTC-39A only); or TM 11-5805-778-12-1, TM 11-5805-778-12-2-1, TM 11-5805-778-12-2-2, and TM 11-5805-778-12-3 (AN/TTC-39D and 39D PS only).

STANDARDS

The standards are met when the AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS is positioned, power is applied, and is ready for initialization.

TRAINING AND EVALUATION**Evaluation Guide**

NOTE: The supervisor will tell the soldier where to position the switch and power unit.

[Refer to the TMs for the equipment you have.]

Performance Measures	Results	
1. Position switching system, power unit, and MPDU on site for power and signal cable hookup.	P	F
2. Level truck and trailer.	P	F
3. Ground shelter, power unit, and MPDU. (Refer to TM 5-6115-626-14&P and TM 5-6115-627-14&P.)	P	F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

- | | | |
|--|---|---|
| 4. Perform power cabling procedures and connect external power source. | P | F |
| 5. Connect external signal cables. | P | F |
| 6. Perform power unit and MPDU start-up. (Refer to TM 5-6115-626-14&P and TM 5-6115-627-14&P.) | P | F |
| 7. Perform switching system power-up procedures. | P | F |

REFERENCES

Required	Related
TM 5-6115-626-14&P	FM 11-490-9
TM 5-6115-627-14&P	(o)TM 11-5810-256-12
TM 11-5805-747-12-1	(o)TM 11-5810-329-10
TM 11-5805-747-12-2	(o)TM 11-5810-363-10
TM 11-5805-747-12-3	TM 11-6110-249-14
TM 11-5805-778-12-1	
TM 11-5805-778-12-2-1	
TM 11-5805-778-12-2-2	
TM 11-5805-778-12-3	

113-603-2200

PERFORM SYSTEM INITIALIZATION FOR TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39A

CONDITIONS

Given an installed AN/TTC-39A, TM 5-6115-465-12, TM 11-5805-747-12-1, TM 11-5805-747-12-2, (o)TM 11-5810-330-13, (o)TM 11-5810-331-13, (o)TM 11-5810-326-13, TM 11-5810-327-10, (o)TM 11-5810-329-10, and (o)TM 11-5810-361-23.

STANDARDS

The standards are met when the AN/TTC-39A initialization is completed, when diagnostic status 640000 is displayed, processor 1 programmed to active, processor 2 programmed to standby, COMSEC initialization is complete, and equipment is ready to process calls.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer TM 11-5805-747-12-1 except as noted.]

Performance Measures	Results	
1. Perform preliminary servicing and adjustment of equipment (card strapping).	P	F
a. CSP nest.		
b. CEG nest.		
c. CEN (CAP/CEM).		
d. TDSGM nest.		
e. SDSG nest.		
2. Perform processor startup and switch initialization procedures.	P	F

3. Perform COMSEC subsystem initialization procedures on equipment. P F
 - a. TSEC/KG-83. (Refer to (o)TM 11-5810-331-13.)
 - b. TSEC/KG-82. (Refer to (o)TM 11-5810-330-13.)
 - c. HGX-83. (Refer to (o)TM 11-5810-327-10.)
 - d. KG-94. (Refer to (o)TM 11-5810-361-23.)
 - e. KY-68. (Refer to (o)TM 11-5810-329-10.)
4. Perform database command procedures. P F
 - a. Enter data (assign commands).
 - b. Change data entry (modify commands).
 - c. Delete data entry (delete commands).

REFERENCES

Required	Related
TM 5-6115-465-12	TM 11-5805-726-12-2
TM 11-5805-747-12-1	(o)TM 11-5810-363-10
TM 11-5805-747-12-2	
(o)TM 11-5810-330-13	
(o)TM 11-5810-331-13	
(o)TM 11-5810-327-10	
(o)TM 11-5810-329-10	
(o)TM 11-5810-361-23	

113-603-2201

**ESTABLISH AN INTERNODAL/EXTENSION LINK WITH
TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39A**

CONDITIONS

Given an operational AN/TTC-39A with link or cable to distant switching system, TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3, TM 11-5805-747-12-4.

STANDARDS

The standards are met when a call can be established between the operator's DSVT and the distant switching system.

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

Results

- | | | |
|--------------------------------------|---|---|
| 1. Perform assign command procedure. | P | F |
|--------------------------------------|---|---|

- | | | |
|--|---|---|
| 2. Perform link initialization (assign transmission groups). | P | F |
| 3. Establish OW using AVOW and DVOW procedures. | P | F |
| 4. Establish a call to the distant switching system. | P | F |

REFERENCES

Required

Related

TM 11-5805-747-12-1
TM 11-5805-747-12-2
FM 24-27
TM 11-5805-747-12-3
JCS PUB 6-05.2
TM 11-5805-747-12-4

FM 24-22

113-603-2202

**PROVIDE CALL SERVICE AT TRANSPORTABLE
AUTOMATIC SWITCHING SYSTEM AN/TTC-39A**

CONDITIONS

Given an operational AN/TTC-39A with the CSP in STAFFED mode, TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3.

STANDARDS

The standards are met when the CSP is processing calls.

TRAINING AND EVALUATION**Evaluation Guide****Performance Measures**

1. Assign CSP addresses.
2. Perform card strapping of CVSD and DLPMA cards for 56 VDC.
3. Place outgoing call.
4. Extend incoming call from queue.

Results

P	F
P	F
P	F
P	F

- | | | |
|---|---|---|
| 5. Place incoming call on hold. | P | F |
| 6. Establish preprogrammed conference and progressive conference calls. | P | F |
| 7. Transfer CSP directory number to another location. | P | F |
| 8. End directory number transfer. | P | F |
| 9. Extend an incoming call to commercial network. | P | F |
| 10. Extend an incoming call with precedence upgrade. | P | F |

REFERENCES**Required**

TM 11-5805-747-12-1
TM 11-5805-747-12-2
TM 11-5805-747-12-3

Related

FM 24-27

113-603-2203

PERFORM SYSTEM SHUTDOWN FOR TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39A

CONDITIONS

Given an operational AN/TTC-39A, movement orders, TM 5-6115-465-12, TM 11-5805-747-12-1, TM 11-5411-211-14, and TM 11-6110-249-14.

STANDARDS

The standards are met when the AN/TTC-39A is correctly shut down and packed for movement to a new location.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TM 11-5805-747-12-1 except as noted.]

Performance Measures	Results	
1. Perform proper shutdown procedures for AN/TTC-39A.	P	F
2. Perform proper power-down procedures for S-639G/S640G. (Refer to TM 11-5411-211-14.)	P	F
3. Perform proper power-down procedure for MPDU. (Refer to TM 11-6110-249-14.)	P	F

4. Perform proper power-down procedure for AN/MJQ-10. (Refer to TM 5-6115-465-12.)	P	F
5. Perform proper storage procedures for AN/TTC-39A.	P	F
6. Perform power cabling removal/storage procedures.	P	F
7. Perform subscriber field cable removal/storage procedures.	P	F
8. Perform ground strap and rod removal/storage procedures.	P	F
9. Close and secure shelter door and all external covers.	P	F

REFERENCES

Required	Related
TM 5-6115-465-12	FM 11-490-9
TM 11-5411-211-14	TM 11-5805-747-34-1
TM 11-5805-747-12-1	
TM 11-6110-249-14	

113-603-3229

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39A

CONDITIONS

Given an AN/TTC-39A, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, digital multimeter AN/USM-451, battery tool kit TK-90/G, TM 11-5805-747-12-3, and DA Form 2404.

STANDARDS

The standards are met when all deficiencies/shortcomings are corrected or documented and reported to the next maintenance level.

TRAINING AND EVALUATION

NOTE: This task has two PMCS tables—operator and unit. Follow both tables simultaneously according to the maintenance interval, such as before, during, after, weekly, and so forth.

Evaluation Guide

Performance Measures

1. Determine which PMCS interval you are performing.

Results

P F

NOTE: During continuous operation, perform PMCS that will not interrupt operation. Perform complete checks when feasible.

2. Perform routine check procedures and make appropriate on the spot corrections.

P F

NOTE: When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS in the TMs and on equipment plates and decals.

3. Record all uncorrected deficiencies on DA Form 2404.
4. Report all uncorrected deficiencies to immediate supervisor for further action.

P F

P F

REFERENCES

Required

TM 11-5805-747-12-3

Related

TM 5-4120-367-14
TM 11-5805-747-12-4
TM 11-5815-602-10-1
DA Pam 738-750
(C)NAM-24A/TSEC

113-603-2204
PERFORM SYSTEM INITIALIZATION FOR
TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39D

CONDITIONS

Given an installed AN/TTC-39D or AN/TTC-39D PS, TM 11-5805-778-12-1, TM 11-5805-778-12-2-1, TM 11-5805-778-12-3, (o)TM 11-5810-326-13, (o)TM 11-5810-327-10, (o)TM 11-5810-329-10, (o)TM 11-5810-330-13, (o)TM 11-5810-331-13, (o)TM 11-5810-361-23, and (o)TM 11-5810-363-10.

- e. KG-94. (Refer to (o)TM 11-5810-361-23.)
- f. KY-68. (Refer to (o)TM 11-5810-329-10.)

NOTE: PMs 4 through 11 are for AN/TTC-39D PS only.

STANDARDS

The standards are met when the AN/TTC-39D or AN/TTC-39D PS with a 650000 diagnostic status displayed has processor 1 programmed to active state, processor 2 programmed to standby state, COMSEC initialization completed, and equipment is ready to process calls.

TRAINING AND EVALUATION

NOTE: For AN/TTC-39D PS use the workstation SWITCH MAN/MACHINE terminal and for AN/TTC-39D use the VDT.

Evaluation Guide

[Refer to TM 11-5805-778-12-1, TM 11-5805-778-12-2-1, and TM 11-5805-778-12-3 except as noted.]

Performance Measures	Results	
1. Perform preliminary servicing and adjustment of equipment, such as card strapping.	P	F
2. Perform processor(s) startup and switch initialization (AN/TTC-39D only).	P	F
3. Perform COMSEC subsystem initialization procedures on the following equipment: (Refer to (o)TM 11-5810-363-10.)	P	F
a. TSEC/KG-83. (Refer to (o)TM 11-5810-331-13.)		
b. TSEC/KG-82. (Refer to (o)TM 11-5810-330-13.)		
c. HGX-82. (Refer to (o)TM 11-5810-326-13.)		
d. HGX/83. (Refer to (o)TM 11-5810-327-10.)		

4. Perform workstation initialization procedures.	P	F
5. Perform C/3XA-PS and T/20 initialization procedures.	P	F
6. Perform processor startup procedures using a load disk.	P	F
7. Perform processor startup procedures using a floppy disk.	P	F
8. Perform database command procedures.	P	F
a. Assign commands (enter data).		
b. Modify commands (change data entry).		
c. Delete commands (delete data entry).		
9. Perform TTY function.	P	F
10. Perform workstation utilities function.	P	F
11. Perform MTA/TNS function.	P	F
12. Perform link initialization (assign transmission groups).	P	F
14. Perform TTY operating procedures.	P	F

REFERENCES

Required	Related
TM 11-5805-778-12-1	None
TM 11-5805-778-12-2-1	
TM 11-5805-778-12-3	
(o)TM 11-5810-326-13	
(o)TM 11-5810-327-10	
(o)TM 11-5810-329-10	
(o)TM 11-5810-330-13	
(o)TM 11-5810-331-13	
(o)TM 11-5810-361-23	
(o)TM 11-5810-363-10	

113-603-2205
ESTABLISH AN INTERNODAL/EXTENSION LINK WITH
TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39D

STP 11-31F13-SM-TG

SKILL LEVELS 1/2

CONDITIONS

Given an operational AN/TTC-39D or AN/TTC-39D PS with a link or cable to a distant switching system, TM 11-5805-726-12-2, TM 11-5805-778-12-1, TM 11-5805-778-12-2-1, TM 11-5805-778-12-2-2, TM 11-5805-778-12-3, and TM 11-5805-778-12-4.

STANDARDS

The standards are met when a call can be established between the operator's DSVT and the distant switching system.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TM 11-5805-778-12-1, TM 11-5805-778-12-2-1, TM 11-5805-778-12-2-2, TM 11-5805-778-12-3, and TM 11-5805-778-12-4 except as noted.]

NOTE: For AN/TTC-39D PS use the workstation SWITCH MAN/MACHINE terminal and for AN/TTC-39D use the VDT.

Performance Measures	Results
1. Perform assign command procedure.	P F
a. Add functions.	
b. Modify functions.	

c. Delete functions.

NOTE: PMs 2 through 4 are for AN/TTC-39D PS only.

2. Perform TTY functions using workstation.	P	F
3. Perform workstation utilities functions using workstation.	P	F
4. Perform MTA/TNS functions using workstation.	P	F
5. Perform link initialization (assign transmission groups).	P	F
6. Establish OW using AVOW and DVOW procedures. (Refer to TM 11-5805-726-12-2.)	P	F
7. Complete a call to distant switching system.	P	F

REFERENCES

Required	Related
TM 11-5805-726-12-2	FM 24-22
TM 11-5805-778-12-1	FM 24-27
TM 11-5805-778-12-2-1	JCS PUB 6-05.2
TM 11-5805-778-12-2-2	
TM 11-5805-778-12-3	
TM 11-5805-778-12-4	

113-603-2206

PROVIDE CALL SERVICE AT TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39D

CONDITIONS

Given an operational AN/TTC-39D or AN/TTC-39D PS with the CSP in the STAFFED mode operating in a network, TM 11-5805-778-12-1, TM 11-5805-778-12-2-1, TM 11-5805-778-12-2-2, and TM 11-5805-778-12-12-3.

STANDARDS

The standards are met when the CSP is processing calls.

TRAINING AND EVALUATION Evaluation Guide

NOTE: For AN/TTC-39D PS use the workstation's extended CSP function and for AN/TTC-39D use the CSP.

Performance Measures

1. Perform card strapping of CVSD and DLPMA card for 56 VDC.

Results

P F

- | | | |
|--|---|---|
| 2. Assign CSP addresses. | P | F |
| 3. Place outgoing call. | P | F |
| 4. Extend incoming call from queue. | P | F |
| 5. Place incoming call on hold. | P | F |
| 6. Establish pre-programmed conference and progressive conference calls. | P | F |
| 7. Transfer CSP directory number to another location. | P | F |
| 8. End directory number transfer. | P | F |
| 9. Extend an incoming call to commercial network. | P | F |
| 10. Extend an incoming call with precedence upgrade. | P | F |

REFERENCES

Required

TM 11-5805-778-12-1
TM 11-5805-778-12-2-1
TM 11-5805-778-12-2-2
TM 11-5805-778-12-3

Related
FM 24-27

113-603-2207

PERFORM SYSTEM SHUTDOWN FOR TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39D

CONDITIONS

Given an operational AN/TTC-39D PS or AN/TTC-39D, movement orders, TM 5-6115-465-12, TM 11-5805-778-12-1, and TM 11-6110-249-14.

STANDARDS

The standards are met when the AN/TTC-39D or AN/TTC-39D PS is correctly shut down, packed, and ready for movement to new location.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TM 11-5805-778-12-1 except as noted.]

Performance Measures

Results

NOTE: It is important to shutdown AN/TTC-39D PS workstation processor before system shutdown.

- | | |
|--|----------|
| 1. Perform assemblage shutdown procedures. | P F |
|--|----------|

- | | |
|---|----------|
| 2. Perform MPDU power-down procedure. (Refer to TM 11-6110-249-14.) | P F |
| 3. Perform AN/MJQ-10 power-down procedure. (Refer to TM 5-6115-465-12.) | P F |
| 4. Perform assemblage storage procedures. | P F |
| 5. Perform power cabling removal/storage procedures. | P F |
| 6. Perform subscriber field cable removal/storage procedures. | P F |
| 7. Perform ground strap and rod removal/storage procedures. | P F |
| 8. Close and secure shelter door and all external covers. | P F |

REFERENCES

Required

TM 5-6115-465-12
TM 11-5805-778-12-1
TM 11-6110-249-14

Related

FM 11-490-9
TM 11-5805-778-34-1

113-603-3230

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39D

CONDITIONS

Given an operational AN/TTC-39D or AN/TTC-39D PS, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, battery tool kit TK-90/G, TM 11-5805-778-12-3, and DA Form 2404.

STANDARDS

The standards are met when all deficiencies/shortcomings are corrected or documented and reported to the next maintenance level.

NOTE: This task has two PMCS tables—operator and unit. Follow both tables simultaneously according to the maintenance interval, such as before, during, after, weekly, and so forth.

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

1. Determine which PMCS interval you are performing.

Results

P F

NOTE: During continuous operation, perform PMCS that will not interrupt operation. Perform complete checks when feasible.

2. Perform routine check procedures and make appropriate on the spot corrections.

P F

NOTE: When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS in the TMs and on equipment plates and decals.

3. Record all uncorrected deficiencies on DA Form 2404.
4. Report all uncorrected deficiencies to immediate supervisor for further action.

P F

P F

REFERENCES

Required

TM 11-5805-778-12-3

Related

TM 5-4120-367-14
TM 11-5805-778-12-4
TM 11-5815-602-10-1
DA Pam 738-750
(C)NAM-24A/TSEC

113-603-4209
MAINTAIN TRANSPORTABLE AUTOMATIC
SWITCHING SYSTEM AN/TTC-39A TO DIRECT SUPPORT LEVEL

CONDITIONS

Given an installed faulty automatic telephone central office AN/TTC-39A, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, ESA test set TS-3684/T, tool kit TK-101, tool kit TK-105, PCC extractor, digital generator SG-1139/G, oscilloscope OS-261C or equivalent, transmission test set AN/USM-181 or equivalent, electronic counter digital AN/USM-459 or equivalent, diagnostic tapes, TM 11-5805-747-12-3, TM 11-5805-747-12-4, TM 11-5805-747-12-5-1, TM 11-5805-747-12-5-2, TM 11-5805-747-12-6, TM 11-5805-747-12-7, and DA Form 2404.

STANDARDS

The standards are met when the equipment is returned to normal operation or an unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION

NOTE: PM 1 determines which TM is used for remaining PMs.

Evaluation Guide**Performance Measures**

1. Identify and categorize fault.
2. Perform EUB if required.
3. Isolate fault to the LRU.
4. Repair/replace faulty component or report unrepairable faults to next maintenance level.
5. Test and verify repairs.
6. Return equipment to normal operation.
7. Complete all required forms.

Results

P	F
P	F
P	F
P	F
P	F
P	F
P	F

REFERENCES**Required**

TM 11-5805-747-12-3
 TM 11-5805-747-12-4
 TM 11-5805-747-12-5-1
 TM 11-5805-747-12-5-2
 TM 11-5805-747-12-6
 TM 11-5805-747-12-7

Related

DA Pam 738-750

113-603-4210

MAINTAIN TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39D TO DIRECT SUPPORT LEVEL

CONDITIONS

Given an installed automatic telephone central office AN/TTC-39D, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, multimeter AN/PSM-45A, ESA test set TS-3684/T, tool kit TK-101, tool kit TK-105, PCC extractor, electronic digital generator SG-1139/G, oscilloscope AN/USM-488 or equivalent, transmission test set AN/USM-181 or equivalent, electronic digital counter AN/USM-459 or equivalent, TM 11-5805-778-12-3, TM 11-5805-778-12-4, TM 11-5805-778-12-5-1, TM 11-5805-778-12-5-2, TM 11-5805-778-12-6, and DA Form 2404.

STANDARDS

The standards are met when the equipment is returned to normal operation or an unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION

NOTE: PM 1 determines which TM is used for remaining PMs.

Evaluation Guide

Performance Measures

1. Identify and categorize fault.
2. Perform EUB if required.
3. Isolate fault to LRU.
4. Repair/replace faulty component or report unrepairable faults to next maintenance level.
5. Test and verify repairs.
6. Return equipment to normal operation.
7. Complete all required forms.

Results

P	F
P	F
P	F
P	F
P	F
P	F
P	F

REFERENCES

Required

TM 11-5805-778-12-3
 TM 11-5805-778-12-4
 TM 11-5805-778-12-5-1
 TM 11-5805-778-12-5-2
 TM 11-5805-778-12-6

Related

DA Pam 738-750

113-603-4225

RESTORE SYSTEM/LINK OUTAGE IN A TRI-TAC SWITCHING NETWORK**CONDITIONS**

Given an established link with an unknown fault between the AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS and the distant terminal; TM 11-5805-747-12-2, TM 11-5805-747-12-3, TM 11-5805-747-12-5-1, and TM 11-5805-747-12-5-2; or TM 11-5805-778-12-2, TM 11-5805-778-12-3, TM 11-5805-778-12-5-1, and TM 11-5805-778-12-5-2.

STANDARDS

The standards are met when the supervisor ensures a link outage is restored through fault isolation procedures and the system is passing traffic.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM for equipment in use; the fault determines which TM volume to use.]

Performance Measures	Results	
1. Interpret system diagrams, link maps, and planners documents to define assemblage interconnections for various links.	P	F
2. Direct system/link troubleshooting and isolate fault to an assemblage or component.	P	F

NOTE: PM 2 results determine which assemblage requires fault isolation

procedures. If fault is not in master switch have the other assemblage supervisor report to master switch when fault is repaired and have soldier go to PM 5. If fault is in master switch have soldier go to PM 4.

3. Direct assemblage fault isolation.	P	F
4. Direct master switch repair procedures.	P	F
a. Analyze all fault messages and non-message fault indications for priority ranking.		
b. Direct isolation procedures for appropriate fault(s).		
c. Direct repair of faulty component(s).		
d. Confirm test(s) to verify repair(s).		
5. Verify system/link status.	P	F
6. Report system/link status to network switch.	P	F

REFERENCES

Required	Related
TM 11-5805-747-12-2	TM 11-5800-216-10-4
TM 11-5805-747-12-3	TM 11-5805-766-12-1
TM 11-5805-747-12-5-1	(C) NAM-24A/TSEC
TM 11-5805-747-12-5-2	
TM 11-5805-778-12-2	
TM 11-5805-778-12-3	
TM 11-5805-778-12-5-1	
TM 11-5805-778-12-5-2	

Subject Area 4: Contingency Communications Systems**113-613-1001****ESTABLISH SITE LAYOUT FOR ELECTRONIC SWITCHING SYSTEM****CONDITIONS**

Given a team packet/OPORD with an eight digit grid coordinate location for an electronic switching system and TM 11-5805-765-13-1 (SENS), TM 11-5805-765-12-1 (LENS), TM 11-5805-764-13-1 (NS), TM 11-5805-747-12-1 (AN/TTC-39A), TM 11-5805-778-12-1 (AN/TTC-39D), TM 11-5805-786-12-1 (AN/TTC-50), or TM 11-5895-1527-13&P (AN/TTC-51).

STANDARDS

The standards are met when the site selected is within 100 meters of an eight digit grid coordinate meeting electronic switching system requirements.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to the TM for the equipment you have.]

Performance Measures	Results	
1. Plot proposed site on map.	P	F
a. Plot in and out routes on map.		
b. Plot all required LOS radio shots.		
2. Perform site reconnaissance.	P	F

NOTE: Site reconnaissance should be done before the switching team is moved to the site, however, the tactical situation may not allow this.

3. Select site within 100 meters of the eight digit grid coordinate given in team packet/OPORD that provides: P F

NOTE: Considerations are listed in order of importance.

- a. Site security.
 - b. Site accessibility.
 - c. Concealment (from air and ground).
 - d. Antenna location.
 - e. Assemblage location
4. Draw site plan showing: P F
- a. All assemblage positions.
 - b. Antenna location.
 - c. Site defenses.
 - d. Site entrance.
 - e. Emergency exit.

REFERENCES**Required**

TM 11-5805-765-13-1
 TM 11-5805-765-12-1
 TM 11-5805-764-13-1
 TM 11-5805-747-12-1
 TM 11-5805-778-12-1
 TM 11-5805-786-12-1
 TM 11-5895-1527-13&P

Related

None

113-625-1040

INSTALL COMMUNICATIONS SWITCHING SET AN/TTC-51

CONDITIONS

Given a CSS AN/TTC-51, 8-lb sledge hammer, ground rod extraction tool, electronic tool kit TK-105/G, connector pliers, TM 11-5805-772-12, TM 11-5895-1527-13&P, and TM 11-5895-1528-13&P.

STANDARDS

The standards are met when the AN/TTC-51 is ready to process subscribers calls.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM 11-5895-1527-13&P except as noted.]

Performance Measures	Results	
1. Unpack and position equipment.	P	F
2. Install ground rod and ground straps.	P	F
3. Install switchboard and DNVT.	P	F
4. Install remote commercial office interface assembly.	P	F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

5. Install UPS.	P	F
6. Install SDC if provided. (Refer to TM 11-5895-1528-13&P.	P	F
7. Install external cables.	P	F
8. Perform preliminary checks.	P	F
9. Perform power initialization procedures.	P	F
10. Load keys into COMSEC equipment.	P	F
11. Initialize SB-4303 switchboard. (Refer to TM 11-5805-772-12.)	P	F

NOTE: The tactical situation determines if cold-start or warm-start initialization procedures are used.

12. Affiliate operator's DNVT.	P	F
13. Affiliate SDC (if installed). (Refer to TM 11-5895-1528-13&P.)	P	F

REFERENCES**Required**

TM 11-5805-772-12
TM 11-5895-1527-13&P
TM 11-5895-1528-13&P

Related

None

113-625-7075

INSPECT THE INSTALLATION OF COMMUNICATIONS SWITCHING SET AN/TTC-51**CONDITIONS**

Given an installed AN/TTC-51 with an AC power source and TM 11-5895-1527-13&P.

STANDARDS

The standards are met when the supervisor ensures all installation procedures are performed and power applied without causing injury to self, other personnel, environment, or equipment damage.

TRAINING AND EVALUATION**Evaluation Guide**

Performance Measures	Results	
1. Inspect equipment position.	P	F
2. Inspect equipment grounding.	P	F
3. Inspect AC power source.	P	F
4. Inspect UPS.	P	F
5. Inspect power cabling procedures and external power connections.	P	F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

- | | | |
|--|---|---|
| 6. Ensure preliminary servicing and adjustment of equipment are completed. | P | F |
| 7. Inspect equipment. | P | F |
| a. Switchboard. | | |
| b. DNVT. | | |
| c. Remote commercial office interface assembly. | | |
| d. SDC, if installed. | | |
| 9. Ensure AC power is applied. | P | F |

REFERENCES**Required****Related**

TM 11-5895-1527-13&P

None

113-625-2097

PERFORM SYSTEM SHUTDOWN FOR COMMUNICATIONS SWITCHING SET AN/TTC-51**CONDITIONS**

Given an operational CSS AN/TTC-51, team packet with movement orders, ground rod extraction tool, 8-lb sledge hammer, electronic tool kit TK-105/G, connector pliers, TM 11-5895-1527-13&P, and TM 11-5895-1528-13&P.

STANDARDS

The standards are met when the CSS AN/TTC-51 is ready for movement.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM 11-5895-1527-13&P except as noted.]

Performance Measures**Results**

1. Perform power shutdown.

P	F
---	---

- | | | |
|--|---|---|
| 2. Remove and store all external cables. | P | F |
| 3. Remove switchboard and DNVVT. | P | F |
| 4. Remove remote commercial office interface assembly. | P | F |
| 5. Remove SDC if installed. (Refer to TM 11-5895-1528-13&P.) | P | F |
| 6. Remove ground straps and rods. | P | F |
| 7. Store equipment. | P | F |

REFERENCES**Required****Related**

TM 11-5895-1527-13&P
TM 11-5895-1528-13&P

TM 11-5805-772-12

113-625-1041

INSTALL COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50**CONDITIONS**

Given a vehicle mounted COMMCEN AN/TTC-50, power unit PU-753/M, two assistants (required for PM 9), axe, ground rod driver/puller, 8-lb sledge hammer, TM 5-6115-632-14&P, TM 11-5805-786-12-1, and TM 11-5985-384-12&P.

STANDARDS

The standards are met when the AN/TTC-50 is positioned, power is applied, and is ready for initialization.

TRAINING AND EVALUATION

NOTE: The COMMCEN AN/TTC-50 is deployed as either a CCPS or CCES. Tell the soldier which configuration is used.

Evaluation Guide

[Refer to TM 11-5805-786-12-1 except as noted.]

Performance Measures	Results	
1. Position power unit and vehicle.	P	F
2. Open protective covers and set TDSG cooling system.	P	F

NOTE: Tell the soldier whether the TDSG cooling system will be operating above or below 32°F.

3. Unpack equipment.	P	F
a. Install hoist.		
b. Operate hoist.		
c. Store hoist.		
4. Install ground rods and ground straps.	P	F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe tm warning notes and warning decals on the equipment.

5. Connect DC auxiliary power cable W2 to shelter.	P	F
6. Apply vehicle power to shelter.	P	F
7. Perform initial DC powerup.	P	F
8. Perform COMMCEN cable interconnections.	P	F

NOTE: The configuration in use determines what interconnections are made.

- LTU CV-4180(V)2/T.
- NAI CV-4002.
- LAN.
- DPT CA-46/G.
- NMF AN/TSQ-154A.
- Junction box J-1077.
- SDC CV-4215/G.

DANGER

Area used for antenna installation must be free of overhead electrical wires. Instant death can result if the antenna comes in contact with HIGH VOLTAGE lines.

9. Install RAU antenna, two assistants are required. (Refer to TM 11-5985-384-12&P.)	P	F
10. Perform power unit startup. (Refer to TM 5-6115-632-14&P.)	P	F
a. Perform prestart checks.		
b. Perform startup procedures.		
c. Adjust voltage for load requirements.		
d. Apply power to the shelter.		
11. Perform switchover to AC power.	P	F

REFERENCES**Required**

TM 5-6115-632-14&P
TM 11-5805-786-12-1
TM 11-5985-384-12&P

Related

None

113-625-2098

PERFORM SYSTEM INITIALIZATION FOR COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50

CONDITIONS

Given an installed COMMCEN AN/TTC-50, TM 11-5805-786-12-1, TM 11-5805-786-12-2, and TM 11-5820-1027-13&P.

STANDARDS

The standards are met when PREAFFILIATION OF SUBLIST NNN COMPLETE is displayed at the workstation, all COMSEC keys are loaded, and the LOADED FREQ PLAN indicator is on.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TM 11-5805-786-12-1 except as noted.]

Performance Measures	Results	
1. Perform preliminary checks.	P	F
2. Perform battery test and equalizing charge procedure.	P	F
3. Perform operations shelter workstation checkout and initialization.	P	F
4. Perform switching/routing processor start-up.	P	F
5. Initialize COMSEC equipment AKDC, TED, KY-57, and SDC if installed.	P	F
6. Perform GLU affiliation.	P	F
7. Perform frequency loading plan.	P	F
a. Download frequency plan from SCC.		

- | | | |
|---|---|---|
| b. Manual loading of frequency plan. | | |
| 8. Initialize RT-1539. (Refer to TM 11-5820-1027-13&P.) | P | F |
| 9. Perform CAP operations. | P | F |
| a. Equipment check. | | |
| b. Line check. | | |
| d. DVOW operations. | | |

NOTE: Refer to TM 11-5805-786-12-2 for PMs 10 through 12.

- | | | |
|--|---|---|
| 10. Perform database command procedures using the workstation's SWITCH MAN/MACHINE function. | P | F |
| a. Enter data (assign commands). | | |
| b. Change data entry (modify commands). | | |
| c. Delete data entry (delete command). | | |
| 11. Perform TTY functions using workstation. | P | F |
| 12. Perform workstation utilities function. | P | F |

REFERENCES

Required	Related
TM 11-5805-786-12-1	TM 11-5800-216-10-1
TM 11-5805-786-12-2	TM 11-5800-216-10-2
TM 11-5820-1027-13&P	

113-625-1048
INSTALL DATA PROCESSING TERMINAL CA-46/G
FOR COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50

CONDITIONS

Given an operational COMMCEN AN/TTC-50, DPT CA-46/G, cable 09-2741781-1, ground rod with ground cable, 8-lb sledge hammer, tool kit TK-105/G, and TM 11-7025-301-13&P.

STANDARDS

The standards are met when SCREEN 1 for operation shelter functions or MAIN 00 for SCC management functions is displayed on the DPT's EL display.

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures	Results	
1. Determine site for DPT location.	P	F
NOTE: Site selected must be within 30 feet of the COMMCEN shelter.		
2. Position DPT on table or suitable flat surface.	P	F

3. Connect cables to DPT. P F

NOTE: Soldier must ensure the DNMF circuit breaker is OFF before connecting cable 09-2741781-1.

4. Install ground rod and ground strap. P F

NOTE: Tell soldier which function is used.

5. Configure DPT for dismounted operation shelter or SCC management function. P F

REFERENCES

Required	Related
TM 11-7025-301-13&P	TM 11-5805-786-12-1
	TM 11-5805-786-12-2

113-625-2099
PERFORM SYSTEM SHUTDOWN FOR
COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50

CONDITIONS

Given an operational COMMCEN AN/TTC-50, two assistants for PM 6, axe, ground rod driver/puller, 8-lb sledge hammer, TM 5-6115-632-14&P, TM 11-5805-786-12-1, and TM 11-5985-384-12&P.

STANDARDS

The standards are met when the AN/TTC-50 is ready for movement.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM 11-5805-786-12-1 except as noted.]

Performance Measures	Results	
1. Perform database backup.	P	F
2. Perform workstation shutdown.	P	F

NOTE: This PM must be performed before PM 3 or system disk corruption may occur.

3. Shut off power to all equipment.	P	F
a. Set all power switches to OFF. (If tactical situation requires it, set fourth RT-1539 radio to MSRT mode.)		
b. Set all DC circuit breakers to OFF.		
c. Set all AC circuit breakers to OFF.		
d. Set battery-bank circuit breakers to OFF.		
e. Set FREQ PLAN switch on RT-1539 radio to STOR.		
4. Perform generator shutdown. (Refer to TM 5-6115-632-14&P.)	P	F

5. Remove cables and ground straps. P F

DANGER

Area above antenna must be free of overhead electrical wires. Instant death can result if the antenna comes in contact with HIGH VOLTAGE lines.

6. Remove RAU antenna, with two assistants. (Refer to TM 11-5985-384-12&P.) P F

NOTE: If COMMCEN is required to operate in the MSRT mode during movement, complete PM 7. If not, go to PM 8.

7. Prepare COMMCEN for MSRT mode. P F
- a. Ensure fourth RT-1539 radio is set to MSRT.
- b. Set RF multicoupler to MSRT.
- c. Set patch panel to MSRT.
- d. Load COMSEC keys in DSVT.
8. Pack shelter. P F
9. Pack power unit. P F
10. Pack support truck and trailer. P F

REFERENCES

Required
 TM 5-6115-632-14&P
 TM 11-5805-786-12-1
 TM 11-5985-384-12&P

Related
 None

113-625-3093

PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES FOR COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50

CONDITIONS

Given an installed COMMCEN AN/TTC-50, TM 11-5805-786-12-2, and DA Form 2404.

STANDARDS

The standards are met when all deficiencies/shortcomings are corrected or documented and reported to the next maintenance level.

TRAINING AND EVALUATION

NOTE: This task has two PMCS tables—operator and unit. Follow both tables simultaneously according to the maintenance interval, such as before, during, after, weekly, and so forth.

Evaluation Guide

Performance Measures

1. Determine which PMCS interval you are performing.

Results

P F

NOTE: During continuous operation, perform PMCS that will not interrupt operation. Perform complete checks when feasible.

2. Perform routine check procedures and make appropriate on the spot corrections.

P F

NOTE: When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS in the TMs and on equipment plates and decals.

3. Record all uncorrected deficiencies on DA Form 2404.
4. Report all uncorrected deficiencies to immediate supervisor for further action.

P F

P F

REFERENCES

Required

TM 11-5805-786-12-2

Related

DA Pam 738-750
TM 11-5800-216-10-1
TM 11-5800-216-10-2
TM 11-5805-786-12-1
TM 11-5820-1027-13&P

113-625-4023

MAINTAIN COMMUNICATIONS CENTRAL SYSTEM AN/TTC-50 TO DIRECT SUPPORT LEVEL

CONDITIONS

Given an installed COMMCEN AN/TTC-50, multimeter AN/PSM-45A or equivalent, ESA test set TS-4294/G, electronic tool kit TK-105/G, PCC extractor, dual power supply, TM 11-5805-786-12-3, TM 11-5805-786-12-4, and DA Form 2404.

STANDARDS

The standards are met when the equipment is returned to normal operation or any unrepairable fault is reported to the next maintenance level.

- | | | |
|---|---|---|
| b. UHF faults. | | |
| c. CSS. | | |
| 2. Isolate fault. | P | F |
| 3. Repair/replace faulty component to the LRU or report unrepairable fault to next maintenance level. | P | F |
| 4. Verify repaired or replaced component. | P | F |
| 5. Return equipment to normal operation. | P | F |
| 6. Complete all required forms. | P | F |

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

1. Identify and categorize fault symptoms.
 - a. LOS assemblage.

Results

P	F
---	---

REFERENCES

Required

TM 11-5805-786-12-3
TM 11-5805-786-12-4

Related

DA PAM 738-750
TM 11-5820-1023-13-1
TM 11-5820-1114-13
TM 11-5895-1527-13&P

Subject Area 5: Auxiliary Equipment**113-625-1042****INSTALL CONVERTER TELEPHONE SIGNAL EQUIPMENT CV-3478 OR CV-4002****CONDITIONS**

Given an installed AN/TTC-39 and CV-3478 or AN/TTC-47C and CV-4002, LOS multichannel radio terminal AN/TRC-190(V)2, ground rods and straps, 8-lb sledge hammer, shovel, and TM 11-5805-715-12 (CV-3478) or TM 11-5805-763-13 (CV-4002).

STANDARDS

The standards are met when CV-3478 or CV-4002 converter is installed and prepared for operation.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to the TM for the equipment you have.]

Performance Measures

1. Remove transit covers.
2. Connect signal cables.
3. Connect ground rod (CV-4002).
4. Connect power cable.
5. Install sun shield.
6. Apply AC power.

Results

P	F
P	F
P	F
P	F
P	F
P	F

REFERENCES**Required**

TM 11-5805-715-12
TM 11-5805-763-13

Related

None

113-625-1009

INSTALL SUPER HIGH FREQUENCY (SHF) RADIO SYSTEM AN/GRC-224**CONDITIONS**

Given radio set AN/GRC-224 and 9-meter antenna mast AB-1342/GRC-224, 8-lb sledge hammer, antenna alignment meter, 9-meter stay assembly kit, magnetic compass, two people to lift at top end of mast, one person to pull on torsion arm winder assemblies, and TM 11-5820-1024-13.

STANDARDS

The standards are met when radio set AN/GRC-224 passes the RF module/antenna subassembly setup tests.

TRAINING AND EVALUATION**Evaluation Guide**

Performance Measures	Results
1. Determine transmission path azimuth and place baseplate so the two attached chains face away from mast raising direction and transmission path.	P F

WARNING

Do not erect mast if any parts are missing or damaged. Serious injury to personnel or equipment damage can result.

DANGER

Area used for antenna installation must be free of overhead electrical wires. Instant death can result if the antenna comes in contact with HIGH VOLTAGE lines.

2. Set guy stakes and stay anchor.	P	F
3. Install mast subassembly.	P	F
4. Install RF module on mast subassembly.	P	F
5. Install winch, rotator, and tiller on mast subassembly.	P	F
6. Install alignment meter cable and antenna signal cable on RF module.	P	F
7. Raise mast.	P	F
8. Perform RF module/antenna subassembly setup test.	P	F

REFERENCES

Required	Related
TM 11-5820-1024-13	TM 11-5820-1024-23&P

113-625-1049

INSTALL SECURE DIGITAL NET RADIO INTERFACE TSEC/KY-90**CONDITIONS**

Given TSEC/KY-90, CNR AN/VRC-46 or AN/VRC-90, electronic tool kit TK-105/G, (o)TM 11-5810-349-10, and TM 11-5805-764-13-1 (AN/TTC-48(V)) or TM 11-5805-765-12-1 (AN/TTC-46(V)).

STANDARDS

The standards are met when the TSEC/KY-90 is ready for power.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to the TM for the equipment you have.]

Performance Measures	Results	
1. Determine the required initial setting for the chassis top setup controls.	P	F

NOTE: If the SDNRI being installed replaces a previously mounted SDNRI ensure the chassis top setup controls

are at the same settings. If there is not a previously installed SDNRI get the correct settings from the COMSEC custodian.

2. Ensure the CNR/NRI circuit breaker is off.	P	F
3. Place the SDNRI in equipment rack and secure with four screws, lockwashers, and flat washers.	P	F
4. Connect shelter system ground wire to the SDNRI ground stud.	P	F
5. Connect signal cables.	P	F
6. Connect power cable.	P	F

REFERENCES

Required
(o)TM 11-5810-349-10
TM 11-5805-764-13-1
TM 11-5805-765-12-1

Related
None

113-625-1050

INSTALL CONVERTER, SIGNAL DATA CV-4215/G**CONDITIONS**

Given a COMMCEN AN/TTC-50, SDNRI TSEC/KY-90, UPS, CNR (AN/VRC-46 or AN/VRC-90), electronic tool kit TK-105/G, and TM 11-5895-1528-13&P.

STANDARDS

The standards are met when the SDC is positioned and prepared for the power-on procedure.

TRAINING AND EVALUATION

NOTE: When the SDC is collocated with the COMMCEN, minimize interference between the RT-1539 radios and CNRs by following these guidelines: Minimum of 50 meters between MSRT antenna and CNR antenna and implement co-site frequency restrictions.

Evaluation Guide

Performance Measures	Results	
1. Site SDC.	P	F
2. Remove SDC transit covers.	P	F
3. Select the CNR. Position CNR on top of SDC transit case and secure with tie down straps.	P	F
4. Ground SDC.	P	F

- | | | |
|---|---|---|
| 5. Connect signal and power cables. | P | F |
| 6. Slide the KY-90 out of the transit case and set switches as follows: | P | F |
| a. Master slave (MS) data rate to S16. | | |
| b. COMSEC MODE selector to 2B. | | |
| c. (LOCAL RADIO) interface to 1A. | | |
| d. RADIO/EXT AUDIO DELAY (signal) to 4. | | |
| 7. After the switches are set, return the unit to operational position. | P | F |

REFERENCES

Required
TM 11-5895-1528-13&P

Related
FM 11-32

WARNING

Ensure all power switches are in the OFF position before connecting ground strap to equipment. Ground strap must not obstruct cables or become a tripping hazard.

113-603-1043

INSTALL REMOTE CALL SERVICE POSITION, AN/TTC-39A OR AN/TTC-39D

CONDITIONS

Given an operational AN/TTC-39A or AN/TTC-39D with an uninstalled RCSP C-1033/TTC-39(V), junction box J-1077, connector cable SM-D-817235, and TM 11-5805-714-12.

STANDARDS

The standards are met when the RCSP passes the operational check.

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

1. Determine system configuration and equipment.

Results

P F

2. Connect analog and digital cables to RCSP. P F
3. Connect cables to J-1077. P F
4. Connect RCSP power cable to power source. P F
5. Perform RCSP operational check. P F

REFERENCES

Required

TM 11-5805-714-12

Related

TM 11-5805-747-12-1
 TM 11-5805-747-12-2
 TM 11-5805-747-12-3
 TM 11-5805-778-12-1
 TM 11-5805-778-12-2-1
 TM 11-5805-778-12-2-2
 TM 11-5805-778-12-3

113-605-4010

**MAINTAIN CONVERTER TELEPHONE SIGNAL EQUIPMENT
CV-3478 OR CV-4002 TO ORGANIZATIONAL LEVEL**

CONDITIONS

Given a faulty installed CV-3478 or CV-4002, multimeter AN/PSM-45A, PCC extractor, voltmeter AN/USM-224 or equivalent, electronic tool kit TK-105/G, TM 11-5805-715-12 (CV-3478) or TM 11-5805-763-13 (CV-4002) , and DA Form 2404.

STANDARDS

The standards are met when the equipment is returned to normal operation or an unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to the TM for the equipment you have.]

Performance Measures**Results**

1. Identify fault and categorize all faults.

P F

- | | | |
|--|---|---|
| 2. Isolate fault to LRU. | P | F |
| 3. Repair/replace faulty component(s) to the LRU. | P | F |
| 4. Test and verify repaired or replaced faulty components. | P | F |
| 5. Return to normal operation. | P | F |
| 6. Report all uncorrected deficiencies to immediate supervisor for further action. | P | F |

REFERENCES**Required**

TM 11-5805-715-12
TM 11-5805-763-13

Related

None

113-625-4024

**MAINTAIN SUPER HIGH FREQUENCY (SHF) RADIO
SYSTEM AN/GRC-224 TO ORGANIZATIONAL LEVEL**

CONDITIONS

Given a faulty installed AN/GRC-224; one of the following: NCS, LENS, or SENS; TM 11-5820-1024-13; and DA Form 2404.

- | | | |
|--|---|---|
| 2. Identify and isolate fault alarms. | P | F |
| 3. Isolate faults to the LRU. | P | F |
| 4. Test unit for correct operation. | P | F |
| 5. Report uncorrected deficiencies to supervisor, if required. | P | F |

STANDARDS

The standards are met when the AN/GRC-224 is returned to normal operation or an unrepairable fault is reported to the next maintenance level.

REFERENCES

Required

TM 11-5820-1024-13

Related

TM 11-5805-764-13-1

TM 11-5805-765-12-1

TM 11-5805-766-12-1

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

1. Perform BIT on control module.

Results

P F

113-625-4037

MAINTAIN SECURE DIGITAL NET RADIO INTERFACE TSEC/KY-90 TO ORGANIZATIONAL LEVEL

CONDITIONS

Given an installed faulty TSEC/KY-90, multimeter AN/PSM-45A, TM 11-5810-349-10, and DA Form 2404.

NOTE: The TSEC/KY-90 may be installed in the LENS or SENS.

STANDARDS

The standards are met when the equipment is returned to normal operation or an unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

1. Identify and categorizes all faults.

Results

P F

- | | | |
|---|---|---|
| 2. Perform fault isolation. | P | F |
| 3. Repair/replace faulty component(s) to the LRU or report unrepairable fault(s) to the next maintenance level. | P | F |
| 4. Test and verify repair(s). | P | F |
| 5. Return equipment to normal operation. | P | F |
| 6. Complete required form. | P | F |

REFERENCES

Required

TM 11-5810-349-10

Related

None

113-625-4038

MAINTAIN CONVERTER, SIGNAL DATA CV-4215/G TO ORGANIZATIONAL LEVEL**CONDITIONS**

Given a CV-4215/G, multimeter AN/PSM-45A, (o)TM 11-5810-349-23, TM 11-6130-416-24P, TM 11-5895-1528-13&P, and TM 11-5820-890-10-1 (AN/VRC-90) or TM 11-5820-401-10-1 and TM 11-5820-401-10-2 (AN/VRC-46).

STANDARDS

The standards are met when the SDC is returned to normal operation and the maintenance form is completed or the unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM 11-5895-1528-13&P except as noted.]

Performance Measures	Results	
1. Verify all cables are connected.	P	F
2. Check the UPS for proper output voltage. (Refer to TM 11-6130-416-24P.)	P	F
3. Identify and categorize all faults on the KY-90 and CNR. (Refer to (o)TM 11-5810-349-23.)	P	F

NOTE: There are two CNRs associated with the SDC. (Refer to TM 11-5820-890-10-1 (AN/VRC-90) or TM 11-5820-401-10-1 and TM 11-5820-401-10-2 (AN/VRC-46).)

4. Perform fault isolation.	P	F
5. Repair/replace faulty component(s) to the LRU or report the unrepairable fault to the next maintenance level.	P	F
6. Test and verify repairs.	P	F
7. Return equipment to normal operation.	P	F
8. Complete required form.	P	F

REFERENCES**Required**

(o)TM 11-5810-349-23
 TM 11-5820-401-10-1
 TM 11-5820-401-10-1
 TM 11-5820-890-10-1
 TM 11-5895-1528-13&P
 TM 11-6130-416-24P

Related

None

113-603-4211

**MAINTAIN REMOTE CALL SERVICE POSITION,
AN/TTC-39A OR AN/TTC-39D TO DIRECT SUPPORT LEVEL**

CONDITIONS

Given an operational AN/TTC-39A(V) or AN/TTC-39D with a faulty RCSP, multimeter AN/PSM-45A, PCC extractor, CSP, wire wrap tool kit, tool kit JTK-17LMLD, GSE supplementary tool kit-OL, GSE supplementary tool kit-IL, and TM 11-5805-714-12.

- | | | |
|----------------------------------|---|---|
| 2. Remove/replace audible alarm. | P | F |
| 3. Replace keyboard assembly. | P | F |
| 4. Remove/replace power supply. | P | F |
| 5. Remove/replace circuit. | P | F |
| 6. Test and verify repair(s). | P | F |

STANDARDS

The standards are met when the RCSP is returned to normal operation or an unrepairable fault is reported to the next maintenance level.

TRAINING AND EVALUATION**Evaluation Guide****Performance Measures**

1. Perform fault isolation.

Results

P F

REFERENCES**Required**

TM 11-5805-714-12

Related

TM 11-5805-747-12-3
 TM 11-5805-747-12-5-1
 TM 11-5805-747-12-5-2
 TM 11-5805-747-12-8
 TM 11-5805-778-12-3
 TM 11-5805-778-12-5-1
 TM 11-5805-778-12-5-2
 TM 11-5805-778-12-7

Subject Area 6: Signal Security

113-573-3002

IMPLEMENT ELECTRONIC COUNTER-COUNTERMEASURES FOR RADIO SYSTEMS**CONDITIONS**

During operation of a radio system, contact is lost with the distant terminal. You are given the applicable operator's TMs for the radio system and FM 24-33.

STANDARDS

The standards are met when you determine that electronic warfare is directed at your station and you employ electronic counter-countermeasures (ECCM) for continued operation.

TRAINING AND EVALUATION
Evaluation Guide

NOTE: Indicators that there is interference with the system are: subscribers report trunks are noisy, subscribers and switchboard operators report no contact with a particular unit(s), or distant terminal cannot be contacted on OW.

Performance Measures	Results	
1. Check for accidental or unintentional interference.	P	F
a. Check equipment grounds to ensure interference is not caused by electricity build-up.		
b. Check for interference from power unit or adjacent systems.		
2. Check for intentional interference.	P	F

NOTE: Disconnect the antenna. If interference is not present, signals are probably being jammed.

- | | | |
|---|---|---|
| 3. Initiate procedure to combat ECM. | P | F |
| a. Identify type of noise, if possible. | | |
| b. Increase power, if possible. | | |
| c. Check antenna orientation. | | |
| d. Vary antenna height or relocate antenna. | | |
| e. Request new frequencies. | | |

NOTES: Do not change frequencies up or down just to get away from interference. This may create additional problems for other users.

Antijamming measures are designed to allow radio operators to work effectively through intentional interference. Regardless of the nature of the interfering signal, radio operators will not reveal, in the clear, the possibility or success of enemy jamming.

- | | | |
|---|---|---|
| 4. Identify jamming signals if possible. | P | F |
| 5. Prepare/submit operator's meaconing, intrusion, jamming, and intrusion report. | P | F |

REFERENCES

Required
FM 24-33

Related
AR 105-3

113-603-2197**PERFORM A MANUAL COOPERATIVE KEY TRANSFER,
AN/TTC-39A OR AN/TTC-39D****CONDITIONS**

Given an operational AN/TTC-39A or
AN/TTC-39D, KY-68/78, KYK-15,
(C)KAO-193A RP, and (C)NAM-24A/TSEC.

STANDARDS

The standards are met when the transfer is
acknowledged as complete by the distant end.

TRAINING AND EVALUATION**Evaluation Guide****Performance Measures**

	Results	
1. Perform KY-68/78 procedures.	P	F
2. Perform KYK-15 procedures.	P	F
3. Perform cooperative key transfer.	P	F

REFERENCES**Required**

(C)KAO-193A RP
(C)NAM-24A/TSEC

Related

(o)TM 11-5810-292-13&P
(o)TM 11-5810-329-10

Subject Area 7: MSE Switching System Supervision

113-625-7074

**INSPECT THE INSTALLATION OF LARGE EXTENSION NODE SYSTEM
AN/TTC-46(V) OR NODE SWITCHING SYSTEM AN/TTC-47(V)****CONDITIONS**

Given a vehicle mounted LENS AN/TTC-46(V) or NCS AN/TTC-47(V) with power unit PU-753/M, shovel, axe, 8-lb sledge hammer, ground rod driver and puller, TM 5-6115-632-14&P and TM 11-5805-765-12-1 (LENS) or TM 11-5805-766-12-1 (NCS).

STANDARDS

The standards are met when you inspect the LENS or NCS installation and ensure it is ready for power.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM 11-5805-765-12-1 or TM 11-5805-766-12-1 except as noted.]

Performance Measures	Results	
1. Select site for equipment location.	P	F
2. Ensure all protective covers are open.	P	F
3. Ensure required equipment is identified and unpacked at site.	P	F
4. Ensure the PEPs and SEPs are grounded separately and power unit is grounded.	P	F
5. Ensure AC/DC power cable and intershelter cables are connected.	P	F

6. Ensure the external signal cable and subscriber access devices are connected. P F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

7. Check DC power initialization using vehicle power. P F
8. Check operation of power unit PU-753/M. (Refer to TM 5-6115-632-14&P.) P F
9. Inspect AC power switchover. P F

REFERENCES

Required	Related
TM 5-6115-632-14&P	None
TM 11-5805-765-12-1	
TM 11-5805-766-12-1	

113-625-7076

INSPECT THE INSTALLATION OF COMMUNICATION CENTRAL SYSTEM AN/TTC-50**CONDITIONS**

Given an installed COMMCEN AN/TTC-50, power unit PU-753/M, TM 5-6115-632-14&P, TM 11-5805-786-12-1, and TM 11-5985-384-12&P.

STANDARDS

The standards are met when the supervisor ensures all installation procedures are performed and power is applied without causing injury to self, other personnel, environment, or equipment damage.

TRAINING AND EVALUATION

NOTE: The COMMCEN AN/TTC-50 may be deployed as a CCPS or as a CCES. Tell the soldier which configuration will be used.

Evaluation Guide

[Refer to TM 11-5805-786-12-1 except as noted.]

Performance Measures	Results	
1. Inspect position of power unit and vehicle.	P	F
2. Ensure TDSG cooling system is set for outside temperature.	P	F

NOTE: Tell the soldier whether the temperature is above or below 32°F.

3. Inspect ground rods and ground straps.	P	F
---	---	---

4. Inspect COMMCEN cable interconnections.	P	F
--	---	---

NOTE: CCPS or CCES determines which interconnections are made.

- LTU CV-4180(V)2/T.
- NAI CV-4002.
- LAN.
- DPT CA-46/G.
- NMF AN/TSQ-154A.
- Junction box J-1077.
- SDC CV-4215/G.

DANGER

Area used for antenna installation must be free of overhead electrical wires. Instant death can result if the antenna comes in contact with HIGH VOLTAGE lines.

5. Inspect RAU antenna. (Refer to TM 11-5985-384-12&P.)	P	F
6. Ensure AC power is applied. (Refer to TM 5-6115-632-14&P.)	P	F

REFERENCES

Required	Related
TM 5-6115-632-14&P	None
TM 11-5805-786-12-1	
TM 11-5985-384-12&P	

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

Subject Area 8: TRI-TAC Switching System Supervision

113-603-7038

INSPECT THE INSTALLATION OF TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39A OR AN/TTC-39**CONDITIONS**

Given an AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D with PS; power unit PU-406, MPDU AN/MJQ-10; tool kit JTK-17LMLD; GSE supplementary tool kit-OL; shovel; axe; 8-lb sledge hammer; system planner documents; TM 5-6115-465-12; TM 5-6115-626-14&P; TM 5-6115-627-14&P; TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3 (AN/TTC-39A); or TM 11-5805-778-12-1, TM 11-5805-778-12-2, TM 11-5805-778-12-2-1, TM 11-5805-778-12-2-2, and TM 11-5805-778-12-3 (AN/TTC-39D and AN/TTC-39D PS).

STANDARDS

The standards are met when the supervisor ensures all installation procedures are performed and power is applied without causing injury to self, other personnel, environment, or equipment damage.

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TMs for the equipment you have.]

Performance Measures	Results	
1. Select equipment site.	P	F
2. Ensure proper equipment positioning.	P	F
3. Ensure truck(s) and trailer(s) are level.	P	F
4. Inspect grounding of AN/MJQ-10 MPDU. (Refer to TM 5-6115-465-12 and TM 5-6115-626-14&P.)	P	F
5. Inspect grounding of assemblage.	P	F

6. Inspect power cabling procedures and external power connection. P F

DANGER

HIGH VOLTAGE is used in this equipment. Death on contact may result if safety precautions are not observed. Be careful when working near equipment interior or AC power distribution. Observe TM warning notes and warning decals on the equipment.

7. Ensure preliminary servicing and adjustment of equipment are completed. P F
8. Ensure generator pre-checks and startup procedures are completed. (Refer to TM 5-6115-465-12 and TM 5-6115-626-14&P.) P F
9. Ensure AC power is applied. P F

REFERENCES

Required	Related
TM 5-6115-465-12	FM 11-490-9
TM 5-6115-626-14&P	(O)TM 11-5810-256-12
TM 5-6115-627-14&P	(O)TM 11-5810-329-10
TM 11-5805-747-12-1	(O)TM 11-5810-363-10
TM 11-5805-747-12-2	TM 11-6110-249-14
TM 11-5805-747-12-3	
TM 11-5805-778-12-1	
TM 11-5805-778-12-2	
TM 11-5805-778-12-2-1	
TM 11-5805-778-12-2-2	
TM 11-5805-778-12-3	

113-603-7039

VERIFY DATABASE WORKSHEETS FOR TRANSPORTABLE AUTOMATIC SWITCHING SYSTEM AN/TTC-39A OR AN/TTC-39D

CONDITIONS

Given database worksheets for an installed AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS; TM 11-5805-747-12-1, TM 11-5805-747-12-2, and TM 11-5805-747-12-3; or TM 11-5805-778-12-1, TM 11-5805-778-12-2, TM 11-5805-778-12-2-1, TM 11-5805-778-12-2-2, and TM 11-5805-778-12-3; and system planner documents.

STANDARDS

The standards are met when the supervisor ensures the database worksheets are correct and AN/TTC-39A, AN/TTC-39D, or AN/TTC-39D PS lines and trunks are passing traffic.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to TMs for the equipment you have.]

Performance Measures	Results
1. Ensure switch functions are assigned (assign switch initialization [ASI], assign switch classmarks [ASC]).	P F

NOTE: For 39D PS, use the workstation SWITCH MAN/MACHINE terminal; for 39D or 39A use the VDT.

- | | | |
|--|---|---|
| 2. Ensure assignment of terminal service and terminal type for common equipment and CSP. | P | F |
| 3. Ensure assignment of DTGs. | P | F |
| 4. Ensure organization and assignment of trunk group clusters. | P | F |
| 5. Ensure assignment of terminal services to trunk terminals. | P | F |
| 6. Ensure COMSEC assignments by location. | P | F |
| 7. Ensure assignment of commercial and gateway routing. | P | F |
| 8. Ensure assignment of subscriber service. | P | F |
| 9. Ensure assignment of PS (AN/TTC-39D PS only). | P | F |
| 10. Ensure assignment of special features. | P | F |

REFERENCES

Required	Related
TM 11-5805-747-12-1	TM 11-5805-726-12-2
TM 11-5805-747-12-2	(o)TM 11-5810-256-10-1
TM 11-5805-747-12-3	(o)TM 11-5810-326-13
TM 11-5805-778-12-1	(o)TM 11-5810-327-10
TM 11-5805-778-12-2	(o)TM 11-5810-329-10
TM 11-5805-778-12-2-1	(o)TM 11-5810-331-13
TM 11-5805-778-12-2-2	(o)TM 11-5810-361-10
TM 11-5805-778-12-3	(o)TM 11-5810-363-10
	FM 24-27

Subject Area 9. Switching System Management

113-623-6013

**CONDUCT INVENTORY OF A PRESCRIBED LOAD LIST (PLL)
FOR AN ELECTRONIC SWITCHING SYSTEM**

CONDITIONS

Given a spares parts facility AN/TSM-183 (MSE) or S-640/G (TRI-TAC) with PLL stock, DA Form 2063-R, DA Form 3318, blank DD Form 2765-1, DD Form 1348-6, and DA Pam 710-2-1.

STANDARDS

The standards are met when all shortages are documented and ordered on the appropriate forms.

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

1. Review PLL inventory for accuracy.

Results

P F

2. Update DA Form 2063 and DA Form 3318 as required. P F
 - a. Items added to the PLL.
 - b. Items deleted from the PLL.
 - c. Items with an increase in stockage quantity.
 - d. Items with an decrease in stockage quantity.
3. Prepare DD Form 2765-1 as required. P F
4. Post locations and quantities of PLL items on DA Form 3318. P F

REFERENCES

Required

DA Pam 710-2-1

Related

TM 38-L32-11

113-573-2033

INSPECT KEY MANAGEMENT WORKSHEETS (COMSEC)

CONDITIONS

Given (C)TB 380-40, DA Form 5251-R, and DA Form 5251-1-R.

STANDARDS

The standards are met when the key management worksheets are verified by the COMSEC custodian as accurately completed.

TRAINING AND EVALUATION**Evaluation Guide**

Performance Measures		Results	
<i>Complete DA Form 5251-R FIRST.</i>			
1.	Ensure key identification is filled in.	P	F
	a. Cryptonet name.		
	b. Circuit number.		
	c. System number.		
	d. Telephone instrument.		
	e. OW.		
2.	Ensure key type is filled in.	P	F
	a. KEK.		
	b. TEK.		
3.	Ensure classification is filled in.	P	F
4.	Ensure equipment type is filled in.	P	F

NOTE: Identify the COMSEC equipment using the key.

5. Ensure cryptoperiod is filled in.	P	F
6. Ensure effective date is filled in.	P	F

7. Ensure alternate CNCS is completed.	P	F
8. Ensure subscriber identification is filled in.	P	F
9. Ensure distribution point of contact is filled in.	P	F
10. Ensure remarks section is filled in.	P	F
Complete DA Form 5251-1-R.		
11. Ensure key identification is filled in.	P	F
a. Cryptonet name.		
b. Circuit number.		
c. System number.		
d. Telephone instrument.		
e. OW.		
12. Ensure key type is filled in.	P	F
a. KEK.		
b. TEK.		
13. Ensure classification is filled in.	P	F
14. Ensure effective date is filled in.	P	F
15. Ensure supersession date is filled in.	P	F
16. Ensure date generated is filled in.	P	F
17. Ensure HUS location is identified.	P	F
18. Ensure KYK-13 serial number and location are filled in.	P	F
19. Ensure KYX-15 serial number and location are filled in.	P	F
20. Ensure courier is filled in.	P	F
21. Ensure remarks section is filled in.	P	F

REFERENCES

Required	Related
(C)TB 380-40	DA Pam 738-750

Subject Area 10: System Control Center, Telephone Routing AN/TYQ-46(V)

113-625-1051

INSTALL SYSTEM CONTROL CENTER, TELEPHONE ROUTING AN/TYQ-46(V)

CONDITIONS

Given a vehicle mounted AN/TYQ-46(V), power unit PU-753/M, 8-lb sledge hammer, ground rod driver/puller, axe, shove, TM 11-5895-1498-12-1, TM 5-6115-632-14&P, and TM 5-6115-585-12.

STANDARDS

The standards are met when the AN/TYQ-46(V) is positioned and power is applied.

TRAINING AND EVALUATION

NOTE: The SCC can be installed in either corps or division configuration. This task deals only with the division configuration.

Evaluation Guide

[Refer to TM 11-5895-1498-12-1 except as noted.]

Performance Measures	Results	
1. Position shelters and power unit.	P	F
a. Adjust vehicles position until level.		
b. Apply parking brakes, turn off engines, and block wheels.		
3. Unpack cables and equipment.	P	F
4. Install shelter ground rods and ground straps.	P	F
a. Scoop out small 6-inch hole at grounding site.		
b. Use a sledge hammer to drive the rod into the hole. Leave 3 inches of rod extended above hole bottom.		
c. Saturate ground around rod with water.		

WARNING

Ground straps must be connected to ground rod BEFORE ground rod is connected to shelter or power unit.

5. Connect intrashelter signal cables, including ¼-mile CX-112030/G cable to adjacent node center. P F

6. Apply DC power to shelters. P F
 - a. Connect P1 and DC power cable to P2 of shelters and P2 end to vehicles slave receptacles.
 - b. Start vehicle engine after cable connection and check volt meter for a normal reading.
 - c. Set 28 VDC CB1 at power panel to ON.
 - d. Adjust engine speed as necessary to provide 25 to 28.5 VDC on the power control panel DC bus voltage meter.

WARNING

Before connecting DC cable ensure 28 VDC CB1 is OFF.

7. Position power unit. P F
 - a. Position power unit at least 30 feet behind shelter.
 - b. Position power unit at a 45-degree angle to the shelters.
 - c. Position power unit as level as possible and set brakes.
 - d. Pull down front and rear legs.
 - e. Block trailer wheels with suitable wheel blocks.
 - f. Rainroll and secure generator flaps.
8. Ground generator using the same procedures as shelters. P F
9. Connect AC power cables. P F
 - a. Set output reconnection switch to 120 V, 1PH.
 - b. Connect LO (two green leads) of 15-foot stub end to AC power unit ground terminal TB1-LO.
 - c. Connect L1 (white lead) of 15-foot stub end to AC power unit load terminal block TB1-L1.
 - d. Connect L3 (black lead) of 15-foot stub end to AC power unit load terminal block TB1-L3.

STP 11-31F13-SM-TG

SKILL LEVEL 3

- e. Connect P1 end of 35-foot AC power cable to AC power connector J1 on tech/management shelter's PEP.
- f. Connect 15-foot AC power cable to 35-foot AC power cable.
- g. Repeat steps 9b through 9f for the management shelter.

WARNING

Before switching to AC power, check the AC power cables, ground straps, and signal cables for secure connections.

10. Switch over to AC power. P F
- a. Perform preliminary checks on power unit. (Refer to TM 5-6115-632-14&.)

- b. Start power unit. (Refer to TM 5-6115-585-12.)
- c. Ensure AC voltage meter at power unit indicates 116-118 VAC.
- d. Ensure AC frequency meter at power unit indicates 58-62 Hz.
- e. Ensure AC circuit breaker at power unit is set to ON.
- f. Check for 115 \pm 12 VAC and 58/62 Hz at shelter's power control panel.
- g. Set 28 VDC CB1 to OFF at shelter's PEP.

REFERENCES

Required

TM 11-5895-1498-12-1
TM 5-6115-585-12
TM 5-6115-632-14&P

Related

TM 5-6115-630-14&P

113-625-2100

PERFORM SYSTEM INITIALIZATION FOR SYSTEM CONTROL CENTER, TELEPHONE ROUTING AN/TYQ-46(V)

Given an installed AN/TYQ-46(V) and
TM 11-5895-1498-12-1.

STANDARDS

The standards are met when the AN/TYQ-46(V) is
ready to process traffic.

TRAINING AND EVALUATION

NOTE: Soldier will initialize the technical shelter,
before the management/planning shelter, using
the SCC operational check list in Table 2-16,
TM 11-5895-1498-12-1.

Evaluation Guide

Performance Measures	Results	
1. Set all DC and AC power panel circuit breakers and all equipment switches to ON.	P	F
2. Turn intercom on/off rotary switch clockwise, approximately to midrange.	P	F
NOTE: If initializing the RTS, set the SPR circuit breaker to on.		
3. Ensure the CM front panel LEDs are set or display as follows:	P	F
a. PWR lamp: lit.		
b. Group 1 bite fault card ID display: 00.		
c. Group 1 bite fault code display: 0.		
d. Group 1 TMG norm/alt switch: norm.		

- e. Group 1 mode norm/alt switch: norm.
- f. Group 1 cable length switch: 1.
- g. Group 1 group rate switch: 4.
- h. Test select switch: operate.
4. Perform PS start-up and ensure LEDs on the IGW and PAM cards are set as follows: P F
IGW PAM
 PWR: lit ERROR: off
 RUN: lit RUN: lit
 OPER TEMP: lit H/W STATUS 0, 1,
 and 2: all off
5. Load the SCOLOP to initialize the technical shelter work station then the system manager's work stations. P F
6. Perform checkout procedure SCCOMP on each workstation and check the LEDS for the following:
 a. BIT: 0.
 b. PWR fault: off.
 c. TEMP: off.
 d. FAN FAULT: off.
 e. PWR ON: lit.
 f. SYSTEM READY: lit.
 g. SYS DISK RDY: lit.
 h. LOAD DISK: READY (if installed).

REFERENCES

Required	Related
TM 11-5895-1498-12-1	TM 11-5800-216-10-1

113-625-2101 CREATE A TEAM PACKET

CONDITIONS

Given an initialized AN/TYQ-46 (V), an OPORD to create a team packet for a SENS deployment, and TM 11-5895-1498-12-2-1.

STANDARDS

The standards are met when the team packet is transmitted to the team's NMF.

TRAINING AND EVALUATION

NOTE: Use the OPORD provided, select the appropriate team screen windows, and enter all required team information.

Evaluation Guide

Performance Measures

1. Identify team for deployment.

Results

P F

- | | | |
|--|---|---|
| 2. Configure team state. | P | F |
| 3. Select the team project icon and open the team. | P | F |
| 4. Configure team personnel and equipment. | P | F |
| 5. Enter link data. | P | F |

NOTE: If manual selected, enter FREQ/XMT and FREQ/REC data.

- | | | |
|--------------------------|---|---|
| 6. Transmit team packet. | P | F |
|--------------------------|---|---|

REFERENCES

Required

TM 11-5895-1498-12-2-1

Related

None

113-625-2102**MODIFY A SUBSCRIBER'S PREPROGRAMMED CONFERENCE LIST****CONDITIONS**

Given an initialized AN/TYQ-46(V), an OPORD to add an entry on the PCL, and TM 11-5895-1498-12-2-1.

STANDARDS

The standards are met when all appropriate information is added to the PCL and the quit pushbutton is selected to return the user to the desk top.

- | | | |
|--|---|---|
| 2. Click on switch database update. | P | F |
| 3. Select the PCL and click on continue. | P | F |
| 4. Click on add for second window. | P | F |
| a. Enter appropriate information. | | |
| b. Click on VAL push-button. | | |
| c. Click on return pushbutton. | | |
| d. Click on quit pushbutton. | | |

REFERENCES**Required**

TM 11-5895-1498-12-2-1

Related

None

TRAINING AND EVALUATION**Evaluation Guide****Performance Measures****Results**

- | | | |
|--|---|---|
| 1. Select subscriber main window off desk top. | P | F |
|--|---|---|

113-625-2103

ADD A SYSTEM CONTROL CENTER, TELEPHONE ROUTING AN/TYQ-46(V) TO AN MSE NETWORK

CONDITIONS

Given two initialized AN/TYQ-46(V)s (one transmitting and one receiving—you are the transmitting operator), an OPORD to add an SCC to the network, TM 11-5895-1498-12-1, and TM 11-5895-1498-12-2-2.

STANDARDS

The standards are met when the receiving downloaded SCOLOP desk top appears indicating a successful download.

TRAINING AND EVALUATION

NOTE: PMs 1 through 4 are for the receiving SCC, PMs 5 through 8 are for the transmitting SCC. Call the receiving SCC and instruct them to perform PMs 1 through 4.

Evaluation Guide

[Refer to TM 11-5895-1498-12-1 for PMs 1 through 4, TM 11-5895-1498-12-2-2 for PMs 5 through 8.]

Performance Measures	Results
Receiving SCC	

- | | |
|---|----------|
| 1. Select TECH pushbutton off desk top. | P F |
| a. Click on download. | |
| b. Click on YES. | |
| 2. On the TECH_SCC_STATE_W fill in the appropriate fields then click on the VAL pushbutton. | P F |

NOTE: In the event of an abort, restart the workstation by depressing the BIT button on the workstation front panel.

- | | |
|---|----------|
| 3. Fill in the system time and time zone letter in the TEC_TIME_W window. | P F |
|---|----------|

NOTE: The ALERT pushbutton turns red when the workstation is ready to receive the download. Clicking on the pushbutton displays a message indicating the workstation is ready to receive the download.

- | | |
|---|----------|
| 4. Call the transmitting SCC personnel and tell them you are ready to receive a download. | P F |
|---|----------|

Transmitting SCC

- | | |
|---|----------|
| 5. Select SCC network management off desk then click on SCC network. | P F |
| 6. Click on ADD in the SCC_NW_RECAP_SCC_W window. | |
| 7. Fill in the appropriate fields in the SCCNW_SCC_W window then click on the VAL pushbutton. | P F |
| 8. Select SCC in the SCC_NW_RECAP_SCC_W window for download. | P F |
| a. Click on set WFD. | |
| b. Click on the download pushbutton. | |

REFERENCES

Required

TM 11-5895-1498-12-1
TM 11-5895-1498-12-2-2

Related

None

113-625-1052

INSTALL DIGITAL COMPUTER SYSTEM AN/TYC-22

CONDITIONS

Given an initialized AN/TYQ-46(V), an OPORD for AN/TYC-22 installation, tool kit TK-105/G, and TM 11-5805-791-13&P.

STANDARDS

The standards are met when the AN/TYC-22 is installed and power is applied.

NOTE: The digital computer system is commonly known as the RTS.

TRAINING AND EVALUATION**Evaluation Guide**

Performance Measures	Results
1. Position RTS equipment for operation.	P F
a. Position monitor and computer side by side.	
b. Remove front and rear covers of both transit cases, remove keyboard and track ball from stored position.	
c. Remove printer from transit case and position it not further than 10 feet away.	

WARNING

The computer and monitor cases weigh more than 100 pounds. A two-man lift is required to prevent injury.

CAUTION

To avoid overheating, provide sufficient space for cooling; to avoid dust particles, place on a table, NOT on the ground.

- | | | |
|--|---|---|
| 2. Ground the RTS. | P | F |
| 3. Connect signal cables and power cables. | P | F |

CAUTION

To avoid the possibility of crashing the RTS, 50-ohm terminator (AT2) must be connected to the HVA connector CP1-C.

4. Apply power to RTS.

REFERENCES**Required**

TM 11-5805-791-13&P

Related

TM 11-5895-1498-12-1

113-625-2104

PERFORM SYSTEM SHUTDOWN FOR SYSTEM CONTROL CENTER, TELEPHONE ROUTING AN/TYQ-46(V)

CONDITIONS

Given an operational AN/TYQ-46(V) operating under normal conditions without an RTS, a system shutdown OPORD, and TM 11-5895-1498-12-1.

STANDARDS

The standards are met when the SCC is ready for movement.

TRAINING AND EVALUATION

Evaluation Guide

[Refer to chapter 3 of TM for PMs 1 through 6, chapter 2 for PMs 7 through 11.]

Performance Measures	Results	
1. Select the SHUTDOWN option, at the technical workstation, from the window operations menu.	P	F
2. Turn off power to all other work stations connected by local LANs.	P	F
3. Click on the system pushbutton at the NMC workstation.	P	F
a. Click on SHUTDOWN THE SYSTEM.		
b. click on YES.		
4. Set the AC SCS 1&2, DC SCS 1, and DC SCS 2 circuit breakers to OFF at the tech/management plan shelter circuit breaker panels.	P	F
5. Set the AC SCS 1&2, DC SCS 1, and DC SCS 2 circuit breakers to OFF at the management/planning shelter circuit breaker panel.	P	F
6. Set all work station monitor power switches to OFF, then set all remaining equipment/circuit breakers to OFF.	P	F
a. PS.		
b. Intercom.		
c. Printer.		
d. CM.		
7. Place the generator panel light switch and the master switch in the OFF position and power down the generator.	P	F
8. Disconnect and secure power cables and signal cables.	P	F

9. Pack and secure all crew bags. P F
10. Close and secure all external covers

WARNING

To prevent injury, PWR cable and ¼-mile cable require a two-person lift.

on shelters and generator. P F

WARNING

Do not permit personnel to remain inside shelters during transit. Serious injury can result.

11. Prepare vehicle and generator for movement to new location. P F
 a. Place ladder in storage.
 b. Unblock vehicle/trailer wheels.
 c. Attach power unit to towing vehicle.
 d. Secure trailer support leg.
 e. Release trailer handbrakes.

CAUTION

Adjust slack in brake safety chain so the trailer brake engages before the trailer safety chains become taut due to towing pintle/towing bar separation. Allow sufficient safety chain slack to prevent inadvertent brake engagement on tight turns.

REFERENCES

Required	Related
TM 11-5895-1498-12-1	TM 5-6115-632-14&P

113-625-3094

**PERFORM PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON
SYSTEM CONTROL CENTER, TELEPHONE ROUTING AN/TYQ-46(V)**

CONDITIONS

Given a Division AN/TYQ-46(V), TM 11-5895-1498-12-3, and DA Form 2404.

STANDARDS

The standards are met when all deficiencies/shortcomings are corrected or documented and reported to the next maintenance level.

TRAINING AND EVALUATION

NOTE: This task has two PMCS tables—operator and unit. Follow both tables simultaneously according to the maintenance interval, such as before, during, after, weekly, and so forth.

Evaluation Guide

Performance Measures

1. Determine which PMCS interval you are performing.

Results

P F

NOTE: During continuous operation, perform PMCS that will not interrupt operation. Perform complete checks when feasible.

2. Perform routine check procedures and make appropriate on the spot corrections.

P F

NOTE: When performing PMCS or routine checks, observe all WARNINGS and CAUTIONS in the TMs and on equipment plates and decals.

3. Record all uncorrected deficiencies on DA Form 2404.
4. Report all uncorrected deficiencies to the next maintenance level IMMEDIATELY.

P F

P F

REFERENCES

Required

TM 11-5895-1498-12-3

Related

DA Pam 738-750

Subject Area 11. Packet Switching**113-625-2105****BUILD PACKET SWITCH DOMAIN DATABASE****CONDITIONS**

Given a corps installed/operational AN/TYQ-46(V), an OPOD with the administrative boundaries, TM 11-5800-216-10-4, and TM 11-5895-1498-12-1.

STANDARDS

The standards are met when the message DISPLAY IS OPERATIONAL is displayed in the system message box of the network picture window.

NOTE: The NMC circuit breaker was turned on during SCC initialization and the BIT was successfully completed. Operator input is now required for the remaining fields.

- | | | |
|--|---|---|
| 2. Enter SPECIAL for initial start-up. | P | F |
| 3. Select NO for NMC ID confirmation and press return. | P | F |
| 4. Enter new NMC ID number. (Refer to TM 11-5800-216-10-4.) | P | F |
| 5. Select NO for database deletion. | P | F |
| 6. Select type of mission: MSE/EAC. | P | F |
| 7. Select REMOTE for printer option. | P | F |
| 8. Login on the console with OPERATOR. | P | F |
| 9. Identify network picture window shows DISPLAY IS OPERATIONAL. | P | F |

REFERENCES**Required**

TM 11-5895-1498-12-1
TM 11-5800-216-10-4

Related

TM 11-5895-1498-12-2-2

TRAINING AND EVALUATION**Evaluation Guide**

[Refer to TM 11-5895-1498-12-1 except as noted.]

Performance Measures**Results**

- | | | |
|---|---|---|
| 1. Enter date and time in the appropriate format. | P | F |
|---|---|---|

113-625-2106

PERFORM MESSAGE TRANSFER AGENT/TACTICAL NAME SERVER (MTA/TNS) MANUAL REGISTRATION/DEREGISTRATION PROCEDURES

CONDITIONS

Given an operational AN/TTC-47(V) and
TM 11-5805-766-12-1.

STANDARDS

The standards are met when all changes are saved
and the TNS menu screen is re-displayed.

TRAINING AND EVALUATION

Evaluation Guide

Performance Measures

Registration

	Results	
1. Select MANUAL REGISTRATION from TNS menu.	P	F
2. Select HOST from manual registration screen.	P	F
3. Enter the appropriate information in the host registration screen.	P	F
a. Host name.		
b. IP address.		
c. Duration.		

4. Select Y to store all parameters entered.	P	F
--	---	---

Deregistration

5. Select MANUAL REGISTRATION from TNS menu.	P	F
6. Select HOST DEREGISTRATION from manual registration screen.	P	F
7. Enter applicable HOST NAME and press return.	P	F

NOTE: The manual registration function can only be accessed when the TNS is running. If the TNS is not running and manual registration is selected, the following message is displayed: THE TNS IS NOT RUNNING, UNABLE TO PROCESS REQUEST.

REFERENCES

Required

TM 11-5805-766-12-1

Related

None

APPENDIX

**DA FORM 5164-R
(HANDS-ON EVALUATION)**

The DA Form 5164-R allows the trainer to keep a record of the performance measures a soldier passes or fails on each task. Instructions for using this form follow:

Prior to evaluating—

- Obtain a blank copy of DA Form 5164-R which you may locally reproduce on 8½" x 11" paper.
- Enter the task title and 10-digit number for the task from the evaluation guide of the SM task summary.
- In column (a), enter the number of each performance measure from the evaluation guide.
- In column (b), enter the performance measure corresponding to the performance measure number in column (a). (You may abbreviate this information if necessary.)
- Enter the feedback statement from the evaluation guide just below the last performance measure.
- Locally reproduce the partially completed form if you are evaluating more than one soldier on the task or the same soldier on more than one task.

During the evaluation—

- Enter the date just before evaluating the soldier's task performance.
- Enter the evaluator's name and the soldier's name and unit.
- For each performance measure in column (b), enter a check in column (c) PASS or column (d) FAIL as appropriate.
- Compare the number of performance measures the soldier passes (and if applicable, which ones) against the task standard shown in the feedback statement. If the standard is met or exceeded, check the GO block under STATUS; otherwise, check the NO-GO block.

Figure A-1 is a sample of a completed DA Form 5164-R.

HANDS-ON EVALUATION For use of this form see AR 350-37. The proponent agency is DCSOPS.		DATE 20 FEB 1995	
TASK TITLE CAMOUFLAGE YOUR DEFENSIVE POSITION		TASK NUMBER 051-202-1363	
ITEM a	PERFORMANCE STEP b	SCORE (Check One)	
		PASS c	FAIL d
1	APPROACH POSITION FROM REAR.	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
2	POSITION CANNOT BE DETECTED FROM 35 METERS IN FRONT OF POSITION.	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
3	DO NOT DISTURB TREES, BUSHES AND GRASS AROUND POSITION.	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
4	COVER PARAPET WITH VEGETATION.	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F
5	HIDE EXCESSIVE SOIL AT REAR OFD POSITION.	<input type="checkbox"/> P	<input checked="" type="checkbox"/> F
6	BREAK-UP OUTLINE WITH VEGETATION.	<input checked="" type="checkbox"/> P	<input type="checkbox"/> F

EVALUATOR'S NAME SFC WHITMAN	UNIT A CO 2/6TH
SOLDIER'S NAME SP4 ANDERSON	STATUS <input type="checkbox"/> GO <input checked="" type="checkbox"/> NO GO

DA FORM 5164-R, SEP 85 (EDITION OF 82 TO BE USED)

Figure A-1. Sample of a completed DA Form 5164-R.

GLOSSARY

ABT assign bulk transfer

AC alternating current, active component

ACCP Army Correspondence Course Program

ACP Allied Communication Publication

AIT advanced individual training

AKDC automatic key distribution center

AN annually

ARTEP Army Training and Evaluation Program—The US Army's collective training program. ARTEP establishes unit training objectives critical to unit survival and performance in combat. They combine the training and the evaluation processes into one integrated function. The ARTEP is a training program and not a test. The sole purpose of external evaluation under this program is to diagnose unit requirements for future training.

ASC assign switch classmarks

ASI assign switch initialization, additional skill identifier

ATTN attention

AUTODIN automatic digital network

AVOW analog voice orderwire

BIT built-in test

BNCOC Basic Noncommissioned Officer's Course

CAP configuration and alarm panel

CBCS common baseline circuit switch

CCES COMMCEN extension switch

CCPS COMMCEN parent switch

CEG common equipment group

CEN control electronics nest

CM communications modem

CNCS cryptonet control station

CNR combat net radio

CNV cryptonet variable

COMMCEN communications center

common task A critical task for which all soldiers at a given skill level are accountable, regardless of their MOS.

COMSEC communications security

critical task A task which is essential for accomplishment of the unit mission, successful individual skill performance and/or survival in battle, and requires training.

cross training The opportunity for an individual to train to additional jobs within his or her MOS.

CSP call service position

CSS communications switching set

CVSD continuous variable slope delta

DA Department of the Army

DC direct current, District of Columbia

DLPMA diphase loop modem

DNMF dismounted node management facility

DNVT digital nonsecure voice terminal

DPT data processing terminal

drill A standardized technique or procedure which serves as a link between individual and collective proficiency. There are battle, crew, and situational drills.

STP 11-31F13-SM-TG

DSVT digital subscriber voice terminal

DTF disciplined time frequency

DTG digital transmission group, date-time group

duty position The job a service member performs within the unit. AR 611-201 has names of official duty positions for each MOS.

DVOW digital voice orderwire

ECCM electronic counter-countermeasures

ECM electronic countermeasures

EL electroluminescent

ESA electronic surge arrestor

EUB essential user bypass

F fail

FES p 2-8

FH frequency hop(ping)

FM field manual, frequency modulation

FREQ frequency

GLU group logic unit

GM group modem

GSE ground support equipment

HUS hardened unique storage

HVA p 3-67

Hz Hertz

IAW in accordance with

ID identification

IGW integral gateway

individual training Training which the officer, NCO, or soldier receives in the training base, units, on the job, or by self-study. This training prepares the individual to perform specified duties or tasks related to the assigned or next higher specialty code of MOS skill level and duty position.

integration training The completion of initial entry training in skill level 1 tasks for an individual newly arrived in a unit, but limited specifically to tasks associated with the mission, organization, and equipment of the unit to which the individual is assigned. (It may be conducted by the unit using training materials supplied by TRADOC, by troop schools or by inservice or contract mobile training teams. In all cases, this training is supported by the TRADOC school proponent.)

KEK key encryption key

LAN local area network

LEN large extension node

LENS large extension node switch

LGM loop group multiplexer

LOS line-of-sight

LRU lowest replaceable unit

LTU line termination unit

merger training Training that prepares an NCO to supervise one or more different MOS at lower skill levels when the soldier advances in skill level in his career management field.

METL mission essential task list

MOPP mission-oriented protective posture

MOS military occupational specialty—a group of duty positions requiring similar qualifications and the performance of closely related duties.

MPDU master power distribution unit

MSE mobile subscriber equipment

MSRT mobile subscriber radio/telephone

STP 11-31F13-SM-TG

terminal

MTP MOS training plan—the MTP is a guide for the conduct of individual training in units. An MTP is developed for each MOS and addresses all skill levels of an MOS and all duty positions. The MTP lists all MOS-specific and shared critical tasks for which the MOS is responsible; it will not include common tasks.

MTS message transfer agent

NAI NATO analog interface

NATO North Atlanta Treaty Organization

NC node center/network control

NCO noncommissioned officer

NCS node center switch

NG National Guard

NMC node management center

NMF node management facility

NRI net radio interface

NS node switch

OCU orderwire control unit

OPORD operation order

OTAR over-the-air rekeying

OW orderwire

P pass

Pam pamphlet

PAM processor and memory

PCC printed circuit card

PCL preprogrammed conference list

PEP power entry panel

performance measures (PM) Those behavior or product characteristics which the trainer observes/checks to determine if the soldier has performed the task correctly.

PLL prescribed load list

PM performance measure

PMCS preventive maintenance checks and services

PS packet switch

PWR power

QT quarterly

RAU radio access unit

RCSP remote call service position

REC receive

RF radio frequency

RKV rekey variable

RT remote terminal

RTS remote terminal system

SA semiannually

SCC system control center

SCCOLOP SCC on-line operational program

SCCOMP SCC off-line maintenance program

SCS p 3-68

SDC signal data converter

SDNRI secure digital net radio interface

SDSG space division switching group

SEN small extension node

SENS small extension node switch

SEP signal entry panel

Glossary-2

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shared task A critical task performed by soldiers from two or more MOSs.

SHF super high frequency

SL skill level A number which denotes the level of qualification within the total MOS. Levels of qualification are identified by characters 0 through 5 in the position of the MOS code.

SM soldier's manual

SMCT soldier's manual of common tasks/
smart multicircuit terminal

SOI signal operating instructions
(formerly CEOI)

STP soldier's training publication

sustainment training The provision of instruction and opportunities for practice to ensure that individual or collective task proficiency is maintained at a requisite level. The frequency will vary with individual and collective tasks; the role, location, and personnel fill of the unit, and the desires of the commander.

task summary A statement of the task in an action-verb format plus all essential performance measures. A standard format fully describes the task for the soldier in the field. It will accommodate any product or process task whether it is in fixed sequence, alternate sequence, or combination. The task summary is used both to train the soldier to perform the task and to evaluate the soldier's ability to perform the task (within testing constraints).

TB technical bulletin

TBD to be determined

TC training circular

TDSG time division switching group

TDSGM time division switching group
modified

TED trunk encryption device

TEK traffic encryption key

TG trainer's guide

TM technical manual

TNS tactical name server

TRADOC United States Army Training and
Doctrine Command

train-up The process of increasing the skills and knowledge of an individual to a higher skill level in the appropriate MOS. (It may involve certification.)

training objective Training intended to accomplish a specific purpose. (The training objective is usually expressed in task format.)

TRI-TAC Tri-service tactical communications

TTY teletypewriter

UHF ultra high frequency

unit training Training (individual, collective, and joint or combined) conducted in the unit.

UPS uninterrupted power supply

US United States

VA Virginia

VAC voltage alternating current

VAL validate

VDC voltage direct current

VDT video display terminal

WFD p 3-66

XMT transmit

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Required Publications

Communications Security System and Equipment Manuals

(C)KAO-193A RP

Guidelines for the Use and Operation of the TRI-TAC COMSEC Equipment. undated

(C)NAM-24A/TSEC

Maintenance Manual TSEC/CI-5, CI-7, and CI-8, Volume 1, Descriptions, Operating Instructions. (U) CONFIDENTIAL

Department of the Army Pamphlets

DA Pam 710-2-1

Using Unit Supply System (Manual Procedures) Reprinted w/basic including CI-13. 1 Jan 82

Field Manuals

FM 11-32

Combat Net Radio Operations. 15 Oct 90

FM 24-33

Communications Techniques: Electronic Counter-Countermeasures. 17 Jul 90

Communications Security System and Equipment Manuals

JCS PUB 6-05.2

Manual for Employing Joint Tactical Communications Systems, Joint Voice Systems. 1 Mar 93

Technical Bulletins

TB 380-40

(C) Key Variable Management and Cryptosetting for Electronically Keyed COMSEC Systems (U). 28 Jul 86

Technical Manuals

TM 5-6115-465-12

Operator's and Organizational Maintenance Manual for Generator Set, Diesel Engine Driven, Tactical Skid Mtd, 30 KW, 3 Phase, 4 Wire, 120/208 and 240/416 V (DOD Model MEP-005A), Utility Class, 50/60 Hz, (Model MEP-104A), Precise Class, 50/60 Hz (Model 114A), Precise Class, 400 Hz Including Auxiliary Equipment (DOD Model MEP-005AWF) Winterization Kit, Fuel Burning (Model MEP-005AWE), Winterization Kit, Electric (Model MEP-005ALM), Load Bank Kit and (Model MEP-005AWM), Wheel Mounting Kit. Reprinted W/Basic Including C1-17. (C18-19) 31 Jan 75

TM 5-6115-585-12

Operator's and Organizational Maintenance Manual Generator Set, Diesel Engine Driven, Tactical Skid Mtd 10 KW, 1 Phase, 2 Wire; 1 Phase, 3 Wire, and 3 Phase, 4 Wire; 120, 120/240 and 120/208 V (DOD Model MEP-003A), Utility Class, 60 Hz and (Model MEP-112A), Utility Class, 400 Hz. Reprinted W/Basic Including C1-12. 25 Jul 77

TM 5-6115-626-14&P

Operator's, Unit, Intermediate Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists) for Power Unit PU-406B/M MEP-005A 30 KW 60 Hz Generator Set M200A1 2-wheel, 4-tire Modified Trailer. Reprinted W/Basic Including C1-2. 31 May 88

TM 5-6115-626-14&P

Operator's, Unit, Intermediate Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists) for Power Plant AN/MJQ-10A; MEP-005A 30 kw 60 Hz Generator Sets; 200A1 2-wheel, 4-tire Modified Trailer. Reprinted W/Basic Including C1. 5 Oct 89

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TM 5-6115-632-14&P

Operator's, Unit, Intermediate Direct Support and Intermediate General Support Maintenance Manual (Including Repair Parts and Special Tools Lists) for Power Unit PU-753/M MEP-003A 10 KW 60 Hz Generator Set M116A2 2-Wheel, 2-Tire, Modified Trailer. Reprinted W/Basic Including C1-3. 17 Jun 88

TM 11-5411-211-14

Operator's, Organizational, Direct Support and General Support Maintenance Manual for Electronic Equipment Maintenance Shelter S-639/G and Storage Shelter S-640/G. Reprinted W/Basic Including C1. 14 Oct 83

TM 9-6140-200-14

Operator's, Unit, Intermediate Direct Support, and Intermediate General Support Maintenance Manual for Lead-Acid Storage Batteries; 4HN, 24 Volt MS75047-1; 2HN, 12 Volt MS35000-1; 6TN, 12 Volt MS35000-3; 6TL, 12 Volt MS52149-41. 13 Jul 89

TM 11-5805-707-12

Operator's and Unit Maintenance Manual for Multiplexer-Combiner, TD-1234(P)/TTC. Reprinted W/Basic Including C1-2. 14 Jan 85

TM 11-5805-714-12

Operator's and Organizational Maintenance Manual for Control, Remote Switchboard, C-10333/TTC-39(V). Reprinted W/Basic Including C1-2. 14 May 84

TM 11-5805-715-12

Operator's and Organizational Maintenance Manual for Telephone Signal Converter, CV-3478/TTC. (C1) 24 Apr 84

TM 11-5805-726-12-2

Operator's and Organizational Maintenance Manual for Orderwire Control, C-10717/TRC. Reprinted W/Basic Including C1. 16 Sep 85

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TM 11-5805-747-12-4

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TM 11-5805-747-12-7

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TM 11-5805-761-12&P

Operator's and Unit Maintenance Manual, Including Repair Parts and Special Tools List for Telephone, Digital, Non-secure Voice TA-1035/U. 1 Mar 89

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TM 11-5805-763-13

Operator's, Unit, and Direct Support Maintenance Manual for Converter, NATO Analog Interface CV-4002/G MSE. (C1-2) 19 Jan 88

TM 11-5805-764-13-1

Operator's, Unit and Direct Support Maintenance Manual for Small Extension Node Switch AN/TTC-48A(V)2, AN/TTC-48C(V)1, AN/TTC-48C(V)2, AN/TTC-48C(V)3, AN/TTC-48C(V)4 MSE. (C1) 1 Aug 94

TM 11-5805-765-12-1

Operator's and Unit Maintenance Manual Large Extension Node Switch AN/TTC-46C(V)1 Consisting of Operations Group OL-412C(V)1/TTC-46C(V), Switching Group ON-305C(V)1/TTC-46C(V), and Large Extension Node Switch AN/TTC-46C(V)2 Consisting of Operations Group OL-412C(V)2/TTC-46C(V), Switching Group ON-305C(V)1/TTC-46C(V) MSE. (C1) 1 Nov 93

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Operator's and Unit Maintenance Manual for Central Office, Telephone, Automatic AN/TTC-39D, AN/TTC-39(V)4. Reprinted W/Basic Including C1. 15 Jan 91

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(O)TM 11-5810-329-10

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(O)TM 11-5810-330-13

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(O)TM 11-5810-349-10

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TM 11-5820-1024-13

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4X4, M1097; M1097A1; Truck, Utility: Tow
Carrier, Armored, 1-1/4 Ton, 4X4, M966; M966A1;
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Carrier, w/Supplemental Armor, 1-1/4 Ton, 4X4,
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Hz; Model: F18H-3, Power: 208V, 3 Phase, 50/60
Hz; Model K1F-18H-4, Power: 208V, 3 Phase, 400

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By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

Official:

MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army

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